THE EXPERIENCE OF ADULT OMANI WOMEN LIVING WITH ASTHMA: AN EXPLORATORY STUDY

A thesis submitted to The University of Manchester for the degree of Doctor of Philosophy in the Faculty of Biology, Medicine and Health

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BADRIYA M. AL RIYAMI

SCHOOL OF HEALTH SCIENCES
Division of Nursing, Midwifery and Social Work
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ABSTRACT

**Background:** Asthma morbidity in women is increasing. Women report greater severity of asthma symptoms and their utilisation of acute health services is high. Asthma prevalence is high in the Middle East region. In Gulf countries, and Oman in particular, there is a dearth of data regarding women’s experience of living with chronic illness in general and asthma specifically. This is an important omission, as cultural context plays a key role in how long-term conditions are experienced.

**Aim:** The study aims to explore in detail the experiences of adult Omani women living with asthma.

**Method:** The study used a qualitative research design, guided by constructivist grounded theory. Women were recruited initially through purposive sampling from asthma clinics in three healthcare institutions in Oman and participated in in-depth face-to-face interviews. Theoretical sampling was employed as categories emerged from the data analysis, with the topic guide developing accordingly. Interviews were transcribed verbatim and translated into English. Data were inductively analysed using the constant comparative method.

**Findings:** Twenty-nine adult Omani women with mild to severe asthma (age range 18-50 yrs; disease duration 2 and 20 years) were interviewed on one occasion. Four interrelated categories that explained the women’s experience of living with asthma emerged: making sense of illness; how asthma disrupted the women’s lives; women’s decisions in managing asthma; and women’s choice of healthcare services. The study’s key finding was that these women’s understanding and experience of asthma was socially embedded and negotiated. The findings also revealed dualism (both help and hindrance) regarding the role of families in respect of how the women managed their condition within their day-to-day lives. Most of the women interviewed reported sub-optimal asthma management. Asthma interrupted the women’s lives, presenting challenges for them, heightening their anxieties about fulfilling their social role, and thus threatening their identity as women. They also felt concern about the perceptions of others; their accounts consequently related their fear of stigma and, especially, experience of felt stigma.

**Discussion:** The women interviewed drew on sociocultural influences that they described as shaping their asthma experience. They evaluated themselves based on the attributes they perceived were set by their social context. Anxieties about the fulfilment of their social duties challenged their sense of coherence of self and identity as women. All of these factors were inter-woven in the ways the women managed their asthma and how they used healthcare services.

**Conclusions:** The study’s findings highlight the centrality of sociocultural influences on how women in Oman experience and manage asthma. These findings may have relevance in other Gulf countries. Consideration of sociocultural influences is necessary for delivery of asthma care which meets Omani women’s needs and should also inform development of asthma guidelines for this cultural context.
Declaration

No portion of the work referred to in the thesis has been submitted in support of an application for another degree or qualification at this or any other university or other institute of learning.

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Dedication

I dedicate this research project to women with asthma in the Gulf region and hope to promote their support in living with asthma.

Acknowledgements

I thank Almighty Allah for His grace and mercies, without which I would not have been able to bring about the completion of this thesis.

I express my great thanks and gratitude to my supervisors, Dr Hannah Cooke and Prof. Ann Caress, for their guidance and direction and their unconditional support throughout my incredible PhD journey.

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My thanks also go to the women in this study for allowing me into their lives and for generously sharing their experiences and giving me their time.

I also thank the management at the study’s various settings and, in particular, the managers and nursing staff at the asthma clinics in these institutions.

Particular thanks go to my family, especially my husband, Hamyar Al Dhouyani, and my children, Ruaa, Mohammed and Ahmed, for their love and support, and for giving me time to complete my PhD and tolerating my absence from their lives. I would also like to extend my appreciation to my parents, brothers and sisters for their continuous support.
The Author

I am a nursing lecturer at Rustaq Nursing Institute (RNI), one of the Ministry of Health’s nursing educational institutions in the Sultanate of Oman. I teach medical/surgical nursing. I graduated from RNI in 1998 with a diploma and, by 2000; I had completed my BSc at Villanova University in the United States. I finished my MSc in Nursing Studies at the same university in 2006.

I have both a personal and professional interest in conducting this study. On the personal side, my mother and younger sister have been diagnosed with asthma (both my mother and sister gave their permission to share their experience). I noticed that neither of them attended follow-up visits or took their preventer medication. In addition, my mother refused to take her inhaled medication, as she believed it would negatively affect her brain. This was happening in spite of my explanations to her (several times) of the importance of treatment adherence and follow-up visits. My mother and sister attended health care institutions only when they experienced severe symptoms which they could not manage by themselves. My mother used to avoid any social gathering when she experienced asthma symptoms such as wheezing and coughing. She kept saying she felt shy about attending with such symptoms and people might feel disgusted if she started coughing.

As part of my work as a clinical instructor, I took my students to primary health care institutions which have asthma clinics. While there, I noticed the same scenario as I had seen with my mother and sister. Women were coming with severe symptoms but did not maintain their follow-up visits, stating that they did not see the importance of coming when they did not have a problem with their asthma. Many of them did not use their preventer medication. Others requested that their physician prescribe them an oral medication instead of their inhalers. These experiences suggested that there were unmet needs for women with asthma in Oman.

Having the chance to take care of people with chronic illness during my professional experience as a nurse; witnessing women’s experience with asthma as a clinical instructor, and having a mother and sister who had poorly controlled asthma, I was aware of some of the unmet needs of women living with asthma. However, this did not lead me to presume to know the experience of all Omani women but it did convince me that the experience of these women needed further exploration. These considerations shaped my choice of research topic.
Through my observation when I was taking my students to asthma clinic, the nurse role was mainly checking patients’ vital signs, teaching the women how to use the flow meter, checking the spirometry reading and documenting the data on the patients hand-out. Furthermore, my mother and sister never mentioned the role of the nurses in their experience. All of the time, they were talking about the role of their physician in managing their asthma and their role in trying to convince them in using the inhalers. It could be because my mother and sister were managing their asthma mostly in private healthcare institutions where most the nurses there are non-Omani and non-Arabic.

Forbes & While (2009) described three main contributions of nurses in managing chronic illnesses including nurse –led care, nurse-led and nurse delivered care, and nurse delivered care. The first and second types are considered independent nursing practice. The nurse led care is where the nurse identifies the patient’s needs, organize the care or refer patients to other. In the second type the nurse identifies the problem, delivers the care and manages it by her or his self. The third type is a dependent nursing practice where the nurse gives the care under the guidance of others. What I noticed from my mother experience and my visits to asthma clinic is that the Omani nurses are still following the dependent nursing practice that discussed by Forbes and While (2009).

Exploring how adult Omani women live with asthma and identifying their needs and challenges could facilitate development of the role of nurses in helping women with asthma. Nurses need to know how their patients cope with their chronic illness in order for them to design an individualised plan of care for their patients. This study could enlighten nurses regarding how adult Omani women perceive and manage their asthma. This could also help nurses understand how Omani women deal with long term illness in general.

The Advanced Practice Nurses (APN) role in Oman has begun to emerge in response to the global trend of moving care from traditional hospital settings to the community environment (Affara and Schober, 2004). A shortage of physicians and the growing burden of long term conditions are the main drivers for the development of APN roles. This critical role of nurses could strengthen community based chronic disease self-management (Affara and Schober, 2004). Long term conditions management is rapidly evolving in Oman, as are nursing roles. Exploring the experience of adult women living with asthma has helped to highlight the limited extent of nurses’ involvement in these women’s care at present. This suggests that the role of nurses could usefully be developed to improve the care and management of women with asthma.
# List of Abbreviations

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tbody>
<tr>
<td>ACS</td>
<td>Acute coronary syndrome</td>
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<tr>
<td>AIRGNE</td>
<td>Asthma Insights and Reality in the Gulf and Near East</td>
</tr>
<tr>
<td>COPD</td>
<td>Chronic obstructive pulmonary disease</td>
</tr>
<tr>
<td>ED</td>
<td>Emergency department</td>
</tr>
<tr>
<td>EPI</td>
<td>Expanded Programme on Immunisation</td>
</tr>
<tr>
<td>GCC</td>
<td>Gulf Cooperation Council</td>
</tr>
<tr>
<td>GDP</td>
<td>Gross domestic product</td>
</tr>
<tr>
<td>GINA</td>
<td>Global Initiative for Asthma</td>
</tr>
<tr>
<td>GP</td>
<td>General practitioner</td>
</tr>
<tr>
<td>HBM</td>
<td>Health Belief Model</td>
</tr>
<tr>
<td>HCPs</td>
<td>Health care providers</td>
</tr>
<tr>
<td>IPA</td>
<td>Interpretative phenomenological analysis</td>
</tr>
<tr>
<td>MoH</td>
<td>Ministry of Health (Sultanate of Oman)</td>
</tr>
<tr>
<td>NCDs</td>
<td>Non-communicable diseases</td>
</tr>
<tr>
<td>NCSI</td>
<td>National Centre for Statistics and Information</td>
</tr>
<tr>
<td>NHLBI</td>
<td>National Heart, Lung, and Blood Institute</td>
</tr>
<tr>
<td>NRAD</td>
<td>National Review of Asthma Deaths</td>
</tr>
<tr>
<td>PHC</td>
<td>Primary health care</td>
</tr>
<tr>
<td>SABA</td>
<td>Short-acting beta agonists</td>
</tr>
<tr>
<td>SRM</td>
<td>Self-Regulation Model</td>
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<tr>
<td>UAE</td>
<td>United Arab Emirates</td>
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<tr>
<td>UOM</td>
<td>University of Manchester</td>
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<td>WHO</td>
<td>World Health Organisation</td>
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**Thesis Structure**

This thesis is presented in nine chapters.

Chapter one outlines the relevant background to the study and the context of the research setting. It also presents an overview of the nature of the problem.

Chapter two provides an overview of the debate about the place of literature review in grounded theory study. It also reviews the current evidence regarding the perspectives of individuals living with asthma on the influence of the condition and services organisation upon them.

Chapter three describes the philosophical assumption and theoretical perspective of the study. It also provides a detailed account of the methods utilised in the study and discusses the ethical considerations and methodological rigour of the study.

Chapter four provides the socio-demographic characteristics of the study sample.

Chapters five to eight present, in turn, the four categories that emerged from the study.

Chapter nine presents the synthesis and discussion of the major concepts. It debates the findings within the context of the existing literature, with a focus on the contributions of this study. Prior to presenting conclusions, the chapter highlights the strengths and limitations of the study, as well as the implications of the findings of policy development, education and practice, and recommendations for future research.
CHAPTER ONE
STUDY BACKGROUND
CHAPTER ONE:  
STUDY BACKGROUND

1.1 Introduction

This chapter sets the scene for the current study. It starts by examining the broad concept of the experience of chronic illness and then narrows its focus to examine the experience of adult women with asthma. It discusses the concept of industrialisation and its impacts on Omani society and culture and reviews the impact of industrialisation on the health system and health of the population of Oman. Relevant international and national literature is included to describe chronic illness and the condition of asthma in general, with specific reference to Oman. Data related to the asthma status of adult women are also highlighted. This chapter was continuously updated throughout the study, with consideration of relevant theory developed as the categories emerged from the findings.

1.2 Chronic illness

Chronic disabling conditions can affect almost all body systems and include, but are not limited to, cardiovascular diseases, cancer, chronic respiratory diseases, diabetes, stroke, renal failure, multiple sclerosis and epilepsy (Scambler, 2008). Most chronic conditions have no cure. They exhibit heterogeneity in various characteristics that ential, for example, duration, symptom characteristics, effects on function, multiple risk factors, and departure from well-being (Goodman et al., 2013). For example, while individuals with respiratory disease may suffer from difficulty in breathing and hypoxia, those with rheumatoid arthritis may have to live with chronic pain (Goodman et al., 2013). Scambler (2008) established that people with chronic conditions share similar problems. These problems relate to changes in physical appearance, finance, employment, change or even loss of social roles, social isolation, and threats to self-esteem and identity. More importantly, in their day-to-day lives, people with chronic conditions have to deal with the effects of their condition on their body, daily activities and social relationships (Scambler, 2008).

1.3 Transition of the global burden of chronic conditions

Social and economic conditions influence chronic disease morbidity and mortality rates (Beaglehole and Yach, 2003). An increased prevalence of chronic illness has characterised most countries that have undergone industrialisation, as infectious diseases have been tackled and life expectancy increased. Increased life expectancy, reduction in fertility rate
and a higher rate of child survival are some of the positive health transitions that have occurred due to industrialisation (Beaglehole and Yach, 2003). Industrialisation and modernisation have also led to dramatic improvements in housing, sanitation, water supply, and nutrition (Vlahov and Galea, 2002). Various risk factors for chronic conditions are also evident in industrialised countries (Zimmet and Alberti, 2006). Several chronic conditions are associated with patterns of lifestyle and behaviour, such as smoking and poor diet. According to the Ministry of Health (MoH) in Oman, these patterns represent a challenge facing any health system (MoH, 2014). Tobacco marketing, a nutritional transition to high-fat diets and a reduction in physical activity levels are some of the negative impacts. The health of populations, specifically those living in urban areas, has changed as countries have moved towards globalisation and urbanisation (Vlahov and Galea, 2002). Scambler (2008) asserted that it is important to understand that such behaviour is not just an individual decision but that social context and economic factors also influence behaviour. Urbanisation has been a significant characteristic of industrialisation, as people have tended to move from rural areas to modernised cities (Sillitoe, 2014). Table 1.1 provides the percentage of urban populations in Oman and Saudi Arabia for 1985 and 2014. Urbanisation is highly important determinants of the world’s epidemiological transition towards higher rates of chronic illness, with both negative and positive impacts (Beaglehole and Yach, 2003). Changes in mortality, morbidity, life expectancy, and the age distribution of a population are major indicators of epidemiological transition (McKeown, 2009).

Table 1.1: Urban populations of Oman and Saudi Arabia

<table>
<thead>
<tr>
<th>Year</th>
<th>Countries</th>
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<tr>
<td></td>
<td>Oman</td>
<td>72%</td>
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</tr>
<tr>
<td></td>
<td>Saudi Arabia</td>
<td>80%</td>
<td></td>
</tr>
<tr>
<td>2014</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>1985</td>
<td></td>
<td>57%</td>
<td>73%</td>
</tr>
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(World Health Organization, 2015c; World Health Organization, 2015d)

1.4 Prevalence of chronic illness

According to the World Health Organisation (WHO), chronic diseases are becoming an increasing burden on the world population (WHO, 2015b). In 2012, the WHO (2015b) estimated that 38 million (68%) deaths globally were due to chronic conditions. Of those 38 million deaths, 31.2 million were due to cardiovascular diseases, cancer, chronic
respiratory diseases and diabetes. The global status report on chronic conditions for 2014 shows the proportion of deaths from chronic conditions by cause in 2012 among people under the age of 70. In this report, cardiovascular diseases are seen as responsible for the largest proportion of early deaths from chronic diseases (37%), followed by cancers (27%), and chronic respiratory diseases, including chronic obstructive pulmonary disease (COPD) and asthma (8%) (WHO, 2014).

Worldwide preventable respiratory chronic diseases afflict a large number of people in various age groups. The danger of these diseases is growing, and many people and families are suffering from them (WHO, 2017b). Millions of people suffer from chronic respiratory disease every day. At present, 235 million people have asthma and 64 million have COPD. Asthma is a public health problem that occurs in all countries regardless of their level of development. However, asthma death is more common in low and lower-middle income countries (WHO, 2011).

1.5 Meaning of chronic illness

The researcher recognises that there is a strong debate about exactly what chronic illness is. Previously, chronic conditions and disability were defined using the medical model, which emphasises physical pathology and focuses on treatment and prognosis. Its underlying philosophy is to treat or cure chronic conditions or disabilities so that the individuals concerned can return to their normal status, and thus any deviation from that normality is considered ‘abnormal’ or ‘undesirable’ (Scambler, 2008).

The definition of chronic illness and disability has evolved as national cultures have changed (Falvo, 2013). Since the 1970s, attention has become more focused, especially in sociological literature, on the challenges facing people with disability and chronic illness. At the beginning of that period, researchers focused on measuring the prevalence and severity of disability and chronic illness (Scambler, 2008). Later, attention turned to the everyday experiences of chronic illness sufferers and their families (Anderson and Bury, 1988; Fitzpatrick et al., 1984; Scambler, 2008). The main reason for that shift was a recognition of the importance of considering the experiences, values, priorities and expectations of people with chronic illness and their families in order to treat them effectively and ethically (Anderson and Bury, 1988). Thus, for health care providers (HCPs) to give the appropriate care and support, they must be aware of the impact of chronic illness and disability on people’s day-to-day lives (Scambler, 2008). This concern reflects chronic illness and disability being considered the main reasons for the increasing
morbidity prevalence, which places a great challenge on the healthcare systems of industrial countries. Although chronic illnesses are not all fatal, they can cause major suffering to individuals and their families. Ageing populations and advances in medical treatment mean that people now tend to live with a chronic illness, rather than die from it (Scambler, 2008). Thus, effort needs to be put into maintaining and improving the quality of life of individuals and their families to maximise their overall well-being. This research specifically considers the subjective experience of women living with asthma and its burden on their daily life.

Falvo (2013) believed that the International Classification of Impairment, Disabilities and Handicaps provides a better understanding of chronic diseases and their consequences than the medical model do. This model includes the physical effects of disease on individuals’ bodies and their function (impairment), the performance of daily activities (disability), and the psychological and social effects of living with impairment and disability (Scambler, 2008). However, the model has been criticised for its medicalised perspective. The WHO (2001) made extensive modifications to the classification system and renamed it the International Classification of Functioning, Disabilities and Health (ICF). The new system integrates the medical and social models of disability by addressing biological, individual and societal perspectives. This biopsychosocial model signifies the effect of the environment on the functioning and overall health of the individual (Peterson, 2005).

The experience of chronic illness has been viewed from various psychological and sociological perspectives. The next section discusses pertinent psychological and sociological theories thought to inform understanding of the experience of asthma.

**1.6 Experience of chronic illness**

In chronic illness in general, psychological theories are often drawn upon in a way that fits the biomedical model of viewing the world, in which the main focus is on the individual. This is evidence in the literature on asthma management and self-management, where asthma tends to be viewed from a psychological perspective (Clark and Nothwehr, 1997).

Scoping the literature, psychological theories commonly applied in asthma research were found to include those concerning health behaviours (e.g. Health Belief Model (HBM), (Rosenstock, 1974); self-efficacy (Bandura, 1977) and self-regulation (Leventhal et al., 1984a).
1.6.1 Theories about health behaviours and the Health Belief Model

Ajzen (1985) proposed three kinds of beliefs guiding an individual’s behaviour: behavioural, normative, and control. Behavioural beliefs are concerned with the attitude towards a specific behaviour, while normative beliefs deal with individual perceptions of social pressure. Control beliefs give rise to the individual’s perceptions of behavioural control. Individuals’ attitude towards their behaviour, normative expectation and perception of behavioural control result in the construction of a behavioural intention (Ajzen, 1985). Ajzen’s theory thus suggests that behaviour change strategies can be effective in preventing further morbidity and mortality for people with chronic illness and disability. Motivating people with chronic illness to improve their health behaviour and maintain those improvements after discharge or rehabilitation is, however, a challenge. The extent to which people are motivated to change and maintain healthy behaviours has a substantial effect on their health outcomes.

The HBM was originally developed to explain individual decision making about health-related (preventive) behaviours (Rosenstock, 1974). HBM was influenced by Kurt Lewin’s field theory of learning (see box 1.1). The model was later expanded to explain other types of health-related behaviour and to include individuals’ belief in the existence of the disease despite the absence of symptoms (Hochbaum, 1956; Rosenstock, 1974). The components of the HBM are “individuals’ perceptions of their susceptibility to a disease, the severity of the disease, and the benefits and costs associated with paths of action that can be taken to prevent it.” (Becker et al., 1974, p. 206).

- Kurt Lewin’s field theory of learning; influenced the HBM (Mikhail, 1981). This theory focused on the behaviour of the individuals in the present rather than their perception of previous experiences.
- The HBM is attributed to the ‘level of aspiration’ concept in Lewin theory, whereby individuals measure the level of difficulty that they probably face while trying to attaining a set goal (Rosenstock, 2005).
- Practically, this proposes that people attempt to choose goals that are within or slightly higher than their perceived performance level (Mikhail, 1981). Their choice of which goal to achieve is based mainly on variations in the perceived difficulty level of a set of goals. However, their personal and cultural background influences their perceptions of the level of difficulty (Mikhail, 1981).

Box 1.1: Kurt Lewin’s field theory
The HBM is more interested in the present subjective state of the individual when explaining preventive health behaviour (Mikhail, 1981; Rosenstock, 1974; Rosenstock, 2005). It asserts that people take action on a health condition when they believe it exists and so they base their actions on their current mood state of being ready to take action and the outcome (perceived benefits) of that action (Rosenstock, 1969).

Becker (1974) suggested that the original HBM focused only on the negative aspects of health. Becker and associates (Becker et al., 1974) introduced health motivation into the model as they believed that it influenced health-related behaviour. They highlighted the importance of symptoms acting as a possible motivation for someone to take action (Kirsch, 1974; Mikhail, 1981). If individuals see symptoms as threatening their life, this might act as a motivator for taking action. Various elements are believed to influence these perceptions, including socio-psychological, demographic, and structural factors (Becker et al., 1974).

1.6.2 Self-efficacy

Self-efficacy has been shown to be central to the way people view themselves and to their consequent behaviour (Strecher et al., 1986; Bandura, 1991). Bandura (1977) suggested that self-efficacy helps people to adopt and maintain specific behaviours. People tend to measure the outcomes of their behaviours and the extent to which they are capable of engaging in certain activities (Bandura, 1977). He proposed that, in perceiving their self-efficacy, people consider the difficulty of the task; the amount of effort needed to accomplish the task; the extent of external received help; and the situation under which they perform the task. They also consider their physical status and their mood while performing the task. Box 1.2 provides more details on Bandura’s self-efficacy theory.
Bandura (1982) suggested that the extent to which people are willing to take risk depend on their perception of their coping capabilities. They tend to avoid activities that they perceive as exceeding their coping capabilities. A thoughtful reflection of this perceived self-inefficacy is that people feel vulnerable to lose control over their situation, which might leave them defenceless (Bandura, 1983).

Bandura regarded people’s discontinuation of specific behaviours like coping or treatment compliance either to their doubt about their ability to carry out the required task or their belief that they are unable to make a change regardless their abilities. People with chronic illness go through various lifestyle changes to manage and adapt to their illnesses (Ryan, 1994; Rapley and Fruin, 1999).

Individuals’ experiences and their interpretations of their illness, shape their behaviours. The level of individual’s self-efficacy is also a key that helps in determining their behaviours (Kavanagh et al., 1993; Ryan, 1994).

Individuals are the focus of the self-efficacy concept and thus this framework did not consider the effect of the social and cultural context on individuals’ behaviours, beliefs and expectations.

**Box 1.2: Bandura’s self-efficacy theory**

As individuals are the focus of the self-efficacy concept, the framework does not consider the effect of the social and cultural context on individuals’ behaviours, beliefs and expectations.

**1.6.3 Self-Regulation Model**

According to the Self-Regulation Model (SRM), individuals’ behaviours reflect their desire to narrow or even close the gap between their actual state, a goal, and an ‘ideal state’ (Leventhal and Nerenz, 1989). Leventhal et al. (1984a) proposed that the adaptive behaviour of individuals depends on their cognitive interpretation of their status, how they plan to change it, and how they appraise the progress they make. The model also conceptualises that the process of adaptation might provoke emotional reactions that
require additional coping plans and appraisal to control them. Individuals’ ability to cope with emotional reactions has been found to be partly independent of the cognitive processes associated with their representation of and approach to coping with a health threat. The cognitive system, as well as the regulatory systems for coping with perceived health dangers and for managing the emotions that are provoked by threats, is activated by stimuli from the environment and from within the individuals themselves (Leventhal et al., 1984a).

The construction of an emotional reaction to a threat, the development of a coping plan to manage it, and the generation of criteria to appraise the outcomes reflect the continuous interaction of perception and environmental stimuli with an individual’s memory system. Accordingly, different people make different mental representations of the same illness. The same person may even view the same illness differently at different times and, therefore, construct several ways to cope with it and plan various criteria to appraise the outcomes (Leventhal et al., 1984a).

Exploring the experience of adult women living with asthma in Oman was undertaken in the hope of providing greater insight into their beliefs and perceptions of their asthma and its treatment. When applying the HBM to asthma, individuals’ beliefs regarding their asthma as intermittent episodes of attacks, while considering the periods between the attacks as disease free, might lead to their being less likely to believe that they have asthma all the time. Thus, they might be less likely to use long-term treatment (Halm et al., 2006). Considering the diversity of beliefs people hold regarding the disease, it is recommended that if asthma management and interventions were to be tailored to individuals’ beliefs and behaviours, this may be particularly promising in terms of better outcomes (Halm et al., 2006). Asthma self-efficacy relates to patients’ ability to interpret their symptoms accurately and engage with appropriate self-management behaviours (Scherer and Bruce, 2001). Applying a self-efficacy model to asthma, Mancuso et al. (2010) suggested that, to optimise patients’ asthma control and quality of life, which are the main goals of the current asthma strategies, patients’ confidence in being able to avoid asthma exacerbation successfully is important. HCPs need to be aware of, appraise and communicate with their patients about the three stages of the SRM (representation, coping and appraisal) for compliance behaviour to be achieved. Any discrepancies between HCPs and their patients’
view with regard to the aforementioned three stages might lead to non-compliance (Leventhal et al., 1984b).

The psychological models outlined above share various salient features, in that they focus on individuals, their characteristics, their interaction with illness, and their interaction and relationship with HCPs. The models were found to be attractive, specifically, to policymakers looking to empower individuals with regard to their health management. The models are pertinent to understanding how individuals react and how, as HCPs, we might provide education and support, as well as being influential in asthma management and guidelines and overall asthma care provision.

However, viewing women’s experience from a psychological perspective might fail to acknowledge the social influences that exist within their social environment which might have an effect on their understanding of their illness, how they cope, and do they appraise and cope with the illness. Psychological models of illness behaviour are mostly United States (US) based and could be accused of being ethnocentric. Nor do they take account of the cultural differences in illness behaviour within the US context, as even in the US there is variation in illness behaviour according to people’s cultural background (Helman, 2007). However, in being individual-centric, these models do not seem to consider individuals within their broader social and cultural context. They attempt to be universal and do not take account of the effects of differences in cultural contexts on health beliefs and behaviours. This research specifically considers the experience of adult Omani women in living with asthma within their social and cultural context. Models of individual behaviour might not be appropriate in the Middle Eastern cultural context, including Oman.

This research also considers sociological theories that examine the social and cultural context of illness behaviour. These theories include illness trajectory, biographical disruption, uncertainty, and stigma. The experience of a chronic illness is influenced by how people value themselves and how they think society views them (Williams, 2003). I strongly believe that people view their chronic illness from the point of view of its implications for themselves and their families and overall social responsibilities (Williams, 2003). The main themes of the sociological theories that I believe are pertinent to this thesis are presented in the following sections.

1.6.4 Illness trajectory

The term ‘illness trajectory’ is used in different ways in the sociological and clinical literature. Different types of illness have different clinical patterns over time (Murray et al.,
This framework assists HCPs to provide appropriate care through integrating active and palliative management. It also helps in providing an estimation of individuals’ needs and interactions with health and social services. Box 1.3 discusses different illness trajectories.

Murray et al. (2005) described three different illness trajectories for people with progressive chronic illnesses. The trajectory might be steadily progressive and predictable, as with cancer; a gradual decline with intermittent remission and/or severe exacerbation, as is the case with asthma; or prolonged disability and decline, as in the case of Alzheimer’s (Murray et al., 2005). Thinking about the trajectory and understanding the temporal pattern of their illness allows individuals to predict and control their situation and empowers them and their carers to live with their illness and manage its demands. It is important to understand that no single model of care fits everybody. Different models of care are appropriate for different illness trajectories (Murray et al., 2005).

Box 1.3: Illness trajectories

The idea of illness trajectory has also been investigated in the social psychosocial literature and has incorporated the social aspects of the trajectory (Wellard, 1998). It is also considered as a way to understand the complex trail of chronic illness (Glaser et al., 1968). Burton (2000) defined illness trajectory as the burden of an illness on the individual and his/her overall social context and argued that it is not a linear process. Rolland (1987) described four key psychosocial features of chronic illness: onset, course, outcome, and degree of incapacitation. He suggested that the combination of these features helps people with illness and their HCPs in locating a disease and mapping its trajectory.

Strauss (1979) argued that individuals’ perception of the experience of chronic illness and its physical characteristics shapes their understanding of their illness trajectory. Individuals seek to locate themselves within their perceived trajectory. They are conscious of the phases and characteristics of their disease and continuously evaluate and relocate their trajectory accordingly (Wellard, 1998). As people interact with the different stages of their chronic illness, the meaning of their illness changes for them (Bury, 1982). People’s access to advanced medical technologies may also affect their disease trajectory. The severity and burden of some chronic illnesses might also influence their trajectories (Lubkin and Larsen, 2006).
1.6.5 Biographical disruption

Bury defined chronic illness as the “experience where the structures of everyday life and the forms of knowledge which underpin them are disrupted” (Bury, 1982, p. 169). Bury (1982) suggested that the onset of chronic illness is likely to create biographical disruption, which varies with the type of chronic illness. Bury (1982) discussed three aspects in explaining the disruption created by chronic illness (see Box 1.4).

- Taken for granted assumptions and behaviours are disrupted. The individual starts experiencing the physiological disruption that chronic illness causes to the body. It disrupts the individuals’ assumptions and can limit behaviours that were taken for granted. They start to view their body according to its level of function. Experiencing physical symptoms might be accompanied by psychological disturbance (Jackson, 1994; Williams, 2003).

- Such on-going disruption of everyday life might cause the individuals to experience a ‘loss of self’ (Skuladottir and Halldorsdottir, 2008), which might lower their self-esteem (Taylor and Field, 2007).

- Individuals start to rethink their biographies and self-identities which results from the disruption of their usual explanatory system (Bury, 1982).

- They start to assemble the required resources to deal with the disruption caused by illness (Bury, 1982).

Box 1.4: Biographical disruption of chronic illness

People who suffer from chronic illnesses may find it difficult to return to the way of life they enjoyed before becoming ill. They usually continue mobilising their resources and manipulating their lives to live with their illness (Wellard, 1998). Various resources are drawn on by individuals and their families to face chronic illness. Physical, financial, medical, social and cultural resources may need to be mobilised to manage the hard times they experience with their chronic illness (Williams, 2003). Accordingly, there may be a
need to modify plans continually (Bury, 1982). The availability of a supportive social network is a central element in helping individuals to manage the disruption of chronic illness. In contrast, an absence or lack of support or the experience of social stigma can result in people facing difficulties in dealing with their illness (Bury, 1982).

People’s experiences of chronic conditions and the way they live with their illnesses vary. The nature of the illness and the level of control each exerts over their disease are factors marking the individual experience. The severity level of the symptoms and their impact on individuals’ social life need to be considered when trying to understand the experience of people living with chronic illness (Taylor and Field, 2007). Bury concluded that chronic illness can disrupt individuals’ biography and social relationships to varying degrees (Bury, 1982).

1.6.6 Uncertainty

Uncertainty is a well-recognised characteristic of many chronic illnesses (Bury, 1982). It has been defined as “the inability to determine the meaning of illness-related events” (Mishel and Clayton, 2008, p.55). Uncertainty is sensed by the individual soon after the symptoms of the illness start to be noticeable and might continue throughout the illness trajectory (Scambler, 2008). ‘Crisis’, ‘chronic’, and ‘terminal’ are the three main phases that map the trajectories and uncertainties of chronic illness (Rolland, 1987).

The first phase concerns the pre-diagnostic period and the time immediately after diagnosis, in which individuals try to understand their disease (Rolland, 1987). Thus, ‘pre-diagnostic uncertainty’ involves the experience of vague symptoms that are not confirmed by a medical consultation (Scambler, 2008). Obtaining a diagnosis of a condition is considered a relief at this stage. After diagnosis, ‘trajectory uncertainty’ evolves, which is the chronic phase in Rolland’s conceptual framework. The chronic phase is the time between diagnosis and the final period of the illness, during which individuals try to normalise their life despite the presence of ‘abnormal’ chronic illness and a high level of uncertainty. The terminal stage is the final period. However, not all chronic illness trajectories include this phase.

Chronic illnesses are frequently marked by their lack of a clear pattern of symptoms and unfamiliarity (Mishel and Clayton, 2008). People with chronic illness may find it difficult to anticipate the progression of their illness or how much that illness might disrupt their life (Bury, 1982). The uncertainty level is high in chronic illnesses that are characterised by unpredictable periods of remission and exacerbation, such as asthma and other highly
unpredictable diseases, such as rheumatoid arthritis (Shaul, 1995). The sudden onset, the experience of unfamiliar symptoms, and the level of disruption of symptoms in individuals’ lives are difficult to anticipate, which can generate a high level of uncertainty in people living with this type of chronic illness (Mishel and Clayton, 2008). Dealing with the uncertainty associated with chronic illnesses is a key aspect of managing and coping with chronic disease (Mishel and Clayton, 2008). It requires continuous modifications to daily life and the revision of plans (Scambler, 2008).

1.6.7 Stigma

Erving Goffman defined stigma as “bodily signs designed to expose something unusual and bad about the moral status of the signifier” (Goffman, 1963, p.11). Such signs or attributes are seen culturally as disgracing the labelled individuals and this in turn can change individuals’ views of themselves (Cooke and Philpin, 2008). This discrepancy between their desired identity and their actual social identity impairs their acceptance of themselves, which has a further negative effect on their self-esteem (Scambler, 2008).

Goffman suggested that stigmatised people might be described as discredited or discreditable. The discredited are those who possess visible attributes of stigma, such as those with physical deformities. Those who possess immediately apparent differentness are described by Goffman as discreditable. While the issue of the first group is to manage and cope with the tension of social contact, the tension of the second group is in managing information in order to pass themselves as ‘normal’ people within their social group (Goffman, 1963). In contrast, to restore their self-identity, the discredited follow the strategy of impression management in dealing with others’ reactions (Cooke and Philpin, 2008).

Scambler and Hopkins (1986) developed the idea of information management that was introduced initially by Goffman. In their study of people with epilepsy, they differentiated between enacted and felt stigma. While the first concept refers to the experience of stigma, the second is concerned with the fear of experiencing stigma. Felt stigma was, for example, found to cause more disruption in the lives of people with epilepsy than enacted stigma (Scambler and Hopkins, 1986).

Link and Phelan (2001) described a combination of several components which they suggested needed to be present for stigma to exist. First, society makes distinctions between people based on social selection. Second, people are then labelled culturally according to perceived negative characteristics. Third, people who are negatively labelled
are placed in separate categories that distinguish them from the ‘normal’ population. Fourth, when people are stigmatised by being labelled as having negative characteristics and set apart from others, they experience actual discrimination and status loss. Finally, the social groups who exercise the social, economic and political power to label people as having undesirable characteristics are responsible for inflicting status loss and discrimination on the groups that they categorise negatively. Link and Phelan stated that the last component is how they have further developed Goffman’s ideas about stigma, by focusing attention on the actions of the social group doing the labelling, rather than on the individual being labelled (Link and Phelan, 2001). Box 1.5 highlights the effects of stigma.

- **Stigma increases the physical, psychological and social hardship of the chronic illness experience.**
- It contributes to the way people perceive, manage and cope with their chronic illness and use health services which therefore affects the overall goal of their disease management and control.
- The physical dysfunction and the embarrassment caused by the chronic illness affects the individual’s self-identity, which may disrupt their social identity.
- Accordingly and as part of their resource mobilisation, people with chronic illness may tend to restrict their social involvement and interaction (Bury, 1982).

**Box 1.5: effects of stigma**

The attention is raised throughout the literature of the need to understand the relationship between culture and stigma. Understanding the experience of adult Omani women in living with asthma and what influences it might reveal valuable information regarding whether the women experienced stigma and, if so, why.

In conclusion, unlike psychological perspectives, sociological theories tend to situate individuals within the context of their societies. Although there are psychological aspects to living with chronic illness, stripping individuals out of their society and failing to appreciate that psychological responses to illness happen within a broader social context, could limit our understanding.
1.7 Asthma: a worldwide problem

Historically, asthma was perceived as a symptom of mental or psychoneurotic disorder caused by nervousness and hysteria (Gillespie, 1936). Gillespie (1936) stated that the close relationship between respiratory function and emotional stimuli had been demonstrated objectively throughout the literature. He suggested that the catching of breath in grief or rapid breathing during excitement demonstrated this relationship. Gillespie (1936) also concluded that psychological factors may replace or combine with physical elements in causing asthma or asthma attacks.

The definition of asthma underwent constant evolvement into the late 1990s (Barbee and Murphy, 1998). Some of the old beliefs about asthma may or may not remain in the minds of laypeople. Recently, asthma was defined as “a heterogeneous disease, usually characterised by chronic airway inflammation. It is defined by the history of respiratory symptoms such as wheeze, shortness of breath, chest tightness and cough that vary over time and in intensity, together with variable expiratory airflow limitation” (Global Initiative for Asthma, 2016, p. 14).

Globally, 300 million people of all ages have asthma (WHO, 2017b). Some countries, particularly the ‘Anglo-Saxon’ nations, such as the US, UK, and Australia, have evidence of a high prevalence of asthma. In high-prevalence countries, it is estimated that the hospital admission rate for asthma patients is 150-200 per 100,000 per year. By 2025, it is expected that the urban world population will be 45% to 59% of the total population. Accordingly, the number of people with asthma will show a remarkable increase. By 2025, an additional 100 million people are projected to develop asthma (Masoli et al., 2004). In the UK, for example, around 5.4 million people are treated for asthma, of which 4.3 million are adults (To et al., 2012). It has been suggested that three people die in the UK because of asthma attacks every day (Asthma UK, 2017). Despite adherence to steroid treatments, many people in the UK still suffer from serious symptoms and unexpected fatal asthma outcomes (Asthma UK, 2017). In other countries, such as many in Africa, the prevalence is low but growing. The WHO has estimated that around 250,000 people die from asthma every year, mainly in low and middle-income countries (Braman, 2006; Bousquet et al., 2010).

In the Middle East region, the prevalence is still lower than in the US, UK and Australia; however, it is important to note that it is rapidly growing (Al Ghobain et al., 2018). The prevalence of asthma in Gulf countries, particularly for adults, is underestimated (Al
Ghobain et al., 2018). In Saudi Arabia, for example, a national household survey carried out in 2013 reported that the prevalence of self-reported clinical diagnoses of asthma among the Saudi population aged 15 years and older was 4.05% (Moradi-Lakeh et al., 2015). The prevalence of people with asthma who live in the southern region of Saudi Arabia was found to be 19.5%, while for those who live at a higher altitude it was 6.9% (Al Ghamdi et al., 2008). Moreover, 8-25% is the prevalence of asthma among Saudi children (Al-Moamary et al., 2016). Countries that have adopted modern lifestyles and become urbanised have witnessed an increase in the prevalence of asthma (WHO, 2017b). The projected increase is related to the growing urbanisation of the world population (WHO, 2017b), which is what is happening in Oman. Similar to other Gulf countries, Oman has witnessed major development since the 1970s (see Appendix 1) and experienced a shift towards Westernisation (Al-Riyami et al., 2003). The Saudi Initiative for Asthma Panel attributed the growing asthma prevalence to rapid modernisation of the Saudi community and to environmental factors, mainly sandstorms (Modaihsh and Mahjou, 2013). In Kuwait, the high prevalence is attributed to planting and cultivating urban areas, which is also the practice in Oman (Modaihsh and Mahjou, 2013). Section 1.10.5 describes the prevalence of asthma in Oman.

1.7.1 Burden of asthma

Nunes et al. (2017) defined asthma as a lifelong condition that has various degrees of severity throughout the life of the individual. Asthma has been associated with substantial burdens upon individuals, families and healthcare systems (WHO, 2017a). In 2010, asthma was ranked 14th in the world in terms of the extent and duration of the disability it causes (Vos et al., 2013). Asthma may have negative effects on individuals’ quality of life and can have a negative impact upon the physical, psychological and social aspects of people’s lives (Pickles et al., 2017). It makes individuals uncertain of their perception of their health, expectations for the future, work and school productivity, physical and social functioning, and cultural and religious fulfilment (Sennhauser et al., 2005). Recurrent asthma symptoms may have an enormous impact on the activities of daily living and can cause sleeplessness, daytime fatigue, reduced activity levels, and school and work absenteeism (WHO, 2013). Much of this impact is believed to come from the physical effect of asthma symptoms. However, the emotional and social impact is also significant (Lavoie et al., 2010; Nejtek et al., 2001). Studies have reported a high rate of mental health problems, including anxiety and panic attacks, among people with asthma (Goodwin et al., 2003; Nascimento et al., 2002). The underdiagnosis as well as the under treatment of this
disease can restrict individuals’ activities and cause a burden on them and their families (WHO, 2013). It may affect the life of family members and cause negative consequences for their professional career, such as losing a job or having to take days off work. Parents or carers might need to travel and wait while patients see their doctor (Sennhauser et al., 2005).

The social and economic-related health problems of asthma are widely recognised (Nunes et al., 2017). A systematic review of the economic burden of asthma has shown that asthma causes a significant economic burden on society. This is believed to be caused by asthma sufferers’ considerable utilisation of healthcare services (Bahadori et al., 2009). The review analysed the direct and indirect medical costs of asthma. The direct costs involved hospitalisation and treatment, and indirect expenses related to a combination of missed work or school days and the loss of future earnings. It was estimated that both the direct and indirect costs of asthma were high. It was also suggested that the severity of asthma and the associated increased use of healthcare services could explain the high economic burden (Bahadori et al., 2009). The review also revealed that females with asthma present a higher direct cost than males (Bahadori et al., 2009). Serra-Batles et al. (1998) explained the high utilisation of healthcare services by women by suggesting that women confronted with chronic illness tended to be more concerned than men and received more prescribed medication. Women’s social roles, especially their multiple roles, also provided some explanation for this result (Fokkema, 2002; Lahelma et al., 2002). Kwon et al. (2004) suggested that there are various explanations for the high utilisation by women of healthcare services, which include pregnancy and childbearing.

**1.7.2 Development of asthma management**

There are several international clinical practice guidelines for the management of asthma, including Global Initiative for Asthma (GINA) guidelines, which are well-respected and underpinned by a strong evidence base (Becker and Abrams, 2017). Clinical guidelines are a systematic evidence-based statement developed to guide the decision of health professionals and patients regarding appropriate care and treatment in specific circumstances. The ultimate goal of such guidelines is to improve patient care (Jackson and Feder, 1998). Box 1.6 describes the history of asthma guidelines.
• Asthma guidelines were first published in Australia, New Zealand and Canada. Over the last 30 years, these guidelines have evolved enormously.

• Due to the widespread occurrence of asthma the WHO and the National Heart, Lung, and Blood Institute (NHLBI) recognised the importance of supporting the development of asthma guidelines worldwide (Becker and Abrams, 2017).

• Both organisations collaborated to produce the GINA; a global strategy that aims to expand awareness of asthma and develop its management worldwide. This strategy has helped to develop guidelines to suit national, regional and local environments (Becker and Abrams, 2017; Reddel and Levy, 2015).

Box 1.6: History of asthma guidelines

Asthma management guidelines are comprehensive and give practical recommendations for clinicians and patients. Inhaled corticosteroid therapy plays a foundation role in managing asthma. Other pharmacological and non-pharmacological options are also recommended. However, maximising the benefits of existing medication is always acknowledged first. This includes clinicians’ assessment of patients’ techniques in using inhalers correctly and their level of adherence (Reddel et al., 2014).

The growing worldwide prevalence of chronic illnesses, including asthma, has increased the demand for healthcare services which are, in some countries, already struggling with the demand for acute care (Wagner, 1998). This has led to a shift from viewing the patient as a passive recipient who plays no role in his or her care to a more active role for patients in managing their day-to-day life with chronic illness (Barlow et al., 2002). In many healthcare systems, self-management is a widely recognised component of treatment for people with a chronic illness and involves collaboration between the community and the healthcare system (Wagner et al., 1996). Shared decision making is one of the strategies to ensure patients’ partnership in managing their asthma, which is believed to improve asthma outcomes and patient engagement (Wilson et al., 2010).

An individual asthma action plan is a core component of asthma self-management programmes. Comprehensive guidance on how to develop action plans is given throughout the literature, and evidence suggests that asthma plans are effective in improving the
clinical outcomes of people with asthma (Gibson and Powell, 2004; Ring et al., 2007). Self-management support includes multiple components, including education, psychological training, and practical physical and social support. More important than the support individuals receive, is tailoring this assistance to their cultural background and preferred lifestyle, as well as to their existing health beliefs (Taylor et al., 2014). Individuals need to be aware of their role in self-monitoring their condition and practical support in adhering to treatment is crucial. Failing to adhere to treatment leads to poor management outcomes (Taylor et al., 2014).

However, it is still unclear in the literature how the patient-centred approach referred to in the clinical guidelines is implemented. Discussing self-management strategies in everyday consultation is still challenging, both for patients and their HCPs (Blakeman et al., 2010). This could be explained by the lack of research evidence regarding people’s experience of living with asthma.

1.8 Asthma within the research context

The literature reveals a gap between the management and priorities of HCPs and those of people living with chronic conditions, including asthma (O’Connor et al., 2008; Smith et al., 2011; Smith et al., 2013). People with chronic illness are concerned with more personal and lifestyle issues, while paying less attention to disease-specific problems, such as medication compliance. Whereas, HCPs focus on disease symptoms, causes, triggers and medication compliance. People with a chronic condition consider their personal, social and life goals and choices in managing their condition (O’Connor et al., 2008; Ring et al., 2011; Smith et al., 2011; Smith et al., 2013).

Bostantzoglou et al. (2015) reported that previous asthma literature emphasised that asthma self-management needs to be individualised and tailored based on asthma phenotype characteristics and not only on the severity of the disease. In recent years, asthma research has been directed towards asthma phenotype characteristics. Over the last 30 years, the literature has described a growth in research into understanding and managing asthma. Bostantzoglou et al. (2015) suggested, however, that the research was focusing more on the population with severe, uncontrolled asthma who were not responding to asthma treatment. They emphasised the need to assess the number in this high-risk group and to understand the mechanism of their severe asthma. Thus, Bostantzoglou et al. (2015) stressed the need to involve patients and take their input about their needs and priorities in order to identify solutions.
The association between asthma and stigma was examined extensively over two decades ago (Andrews et al., 2013). However, most studies focused on self-blame and embarrassment over medication use in public. Since that time, a limited number of studies have examined the feeling of stigma in people living with asthma. Those limited studies confer an association between stigma and poor asthma control (Andrews et al., 2013). Pickles et al. (2017) suggested that, to further our understanding of the specific needs of people affected by asthma, it is of great importance to explore their experience in living with the condition.

Having discussed the experience of chronic illness, it has been shown that women in particular have a high prevalence of chronic illness (WHO, 2009). As this study focuses on women’s experience of asthma, it is important next to discuss women’s health more generally.

1.9 Women’s health

Although the reasons are still not understood, women live longer than men in most societies. However, living longer does not necessarily mean that women enjoy a better health status. The worldwide improvement in women’s life expectancy has been explained by the improvement in women’s social status in many societies (Scambler, 2008). Although there are some gender differences in relation to certain diseases, men and women display an equal risk of acquiring many diseases; however, social and biological factors play a role in the severity of the impact of illness on each gender (Doyal, 1995). For instance, Becklake and Kauffman (1999) suggested that biological and sociocultural factors influence the development of respiratory diseases. Doyal (1995) cited several factors that have less impact on men than women, regardless of where they live: “Poverty, changing demography, gender, violence against women, and lack of research about women” (Doyal, 1995, p. 1154).

The increasing risk of chronic disease has been found to be one of the health challenges for adult females (WHO, 2009). Globally, and in developing countries in particular, the epidemiological and demographic transition has increased the burden of chronic illnesses, which may be substantial within the adult age group (Ribeiro et al., 2008). Both biological and sociocultural factors have been suggested as causes of higher levels of morbidity in women (Scambler, 2008). For example, chronic illness is a significant cause of death in women in the 15-44 age group in the Eastern Mediterranean Region (Ribeiro et al., 2008). Saliba and Zurayk (2010) have shown that reproductive-age women in developing
countries are dying more from chronic illnesses than from maternal conditions or HIV. Similarly, the burden of chronic illnesses is growing noticeably among women within the reproductive age group (Raymond et al., 2005).

Chronic illnesses are estimated to be responsible for 25% of deaths among reproductive-age women (Ribeiro et al., 2008). More than 4.7 million women, mostly from low and middle-income countries, died from long term conditions in 2012 (WHO, 2015b). Respiratory diseases are now one of the major causes of mortality, in addition to cardiovascular diseases and cancer (WHO, 2015b). Factors in the domestic environment, such as smoke from cooking, are reported as being responsible for more than one third of deaths globally in women with COPD (WHO, 2015b).

1.9.1 Women’s experience of chronic disease

Throughout the literature, it has been noted that “women’s experiences cannot be subsumed under those of men, as there are specific issues, e.g. women’s roles inside and outside the home, which influence a woman’s experience of illness” (Anderson et al., 1991, p. 101). Studying women’s experience in living with a chronic illness such as asthma might reveal rich information regarding how women make sense of their illness and what influences their choices in managing their condition. Box 1.7 provides example from the literature of the women’s interpretation of symptoms of chronic illness.

Box 1.7: Women’s interpretation of symptoms of chronic illness

O’Neill and Morrow (2001) conducted an integrative review in the US that aimed to identify how women interpreted the symptoms of their chronic illness. The illnesses of the participants included heart disease, arthritic conditions, diabetes, cancer, lung diseases and mixed or other diseases. Around half the studies in this review included men and women; the remaining included studies which only enrolled women. The percentages of men and women representing the various medical conditions mentioned above were not, however, stated. This review found that men with chronic illness reported fewer symptoms in comparison with women (O’Neill and Morrow, 2001). The authors of this review suggested that sociocultural values could explain these differences, since it is culturally more acceptable for women to be ill and have high symptom perception. Another explanation given for this result was that the women in the studies were older and had a higher level of comorbidity. The reviewers suggested that differences were due to social and cultural influences on the women’s lives which need to be explored (O’Neill and Morrow, 2001).
The transition from being a healthy woman to one with a chronic illness is a journey to an unknown destination. The fear of what will happen, the extent to which her community will understand her condition and accept and support her will characterise the transition process. One study explored six women’s experiences with diabetes and found that these were predominantly negative. The authors highlighted the negative effect that this disease had on the women’s well-being and social life (Koch et al., 1999). A study by Marcille et al. (2012) on the experience of women living with chronic illness also concluded that feelings of loneliness and social isolation presented challenges for the women.

Smith (2003) reported that women who experienced chronic pain felt overburdened by family responsibilities. They sacrificed and devalued their sense of self to care for their family. The same study revealed that the women often found it difficult to achieve a balance between self-care and care of others. Another study showed that women with chronic pain faced disruption in their relationships with their family members and social relationships (Werner et al., 2004). Despite the differences between the various cultures, women were usually considered the primary caregivers and were mostly responsible for domestic duties (Doyal, 1995). The effects of chronic illness go beyond women to affect their family. When women are weakened by illness, their ability to take care of their families may decline, which might reduce the overall well-being of the whole family (Global Alliance for Women’s Health, 2017).

The previous sections show that socio-demographic characteristics of a context can influence the development of chronic illness, including asthma. This might, in turn, influence the way people in a specific context deal with their illness. It is important next to present information about the Sultanate of Oman, which is the context of this study.

1.10 Description of the study context: the Sultanate of Oman

1.10.1 Geographic description

Oman is a sultanate that is governed by His Majesty Sultan Qaboos bin Said. As shown in Figure 1.1, Oman borders the United Arab Emirates (UAE) and Saudi Arabia in the west; the Arabian Sea in the east; the Republic of Yemen in the south; and the Strait of Hormuz in the north (WHO, 2010). Box 1.8 gives the typographical features of Oman.
Oman has a variety of topographical features, consisting of coastal plains, mountains, valleys and deserts, with the coastal area being the most densely populated (Oman, 2016). It is hot and humid in the northern coastal regions during summer, while it is hot and dry in the interior. The south has a moderate climate and regular monsoon rains in summer (Oman, 2016).

Box 1.8: Typographical features of Oman

Figure 1.1: Map of the Sultanate of Oman

Figure 1.2 shows that Oman is administratively divided into 11 governorates, which are further subdivided into wilayat (61 in all). Muscat is the capital city of Oman (WHO, 2010). More than half the population is concentrated in the governorates of Muscat, Dhofar and Batinah. Over 30% of the population lives in Muscat (WHO, 2010).
1.10.2 Omani population and demographic transition

The population of Oman consists mostly of Arabs. Significant non-Arabic minority groups, such as Indians, Pakistanis, and East Africans, are also found in Oman. In 1993, the total population of Oman was 2 million. According to the National Centre for Statistics and Information (NCIS), by the year 2017, the total population of Oman had almost doubled to 4,626,314, of which Omani people made up 54.5%. Omani society is a young one, in which 76% of its total population is between the ages of 15 and 64 (NCIS, 2017). Table 1.2 lists some of the main characteristics of the Omani population.
Table 1.2: Characteristics of the Omani population in 2016

<table>
<thead>
<tr>
<th>Characteristics of the Omani population</th>
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</thead>
<tbody>
<tr>
<td>Omani population in 2016</td>
<td>2,516,134</td>
</tr>
<tr>
<td>Male (%)</td>
<td>50.5</td>
</tr>
<tr>
<td>Female (%)</td>
<td>49.5</td>
</tr>
<tr>
<td>Omani population by age (%)</td>
<td></td>
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<tr>
<td>0-9</td>
<td>16.2</td>
</tr>
<tr>
<td>10-14</td>
<td>5.7</td>
</tr>
<tr>
<td>15-19</td>
<td>5.3</td>
</tr>
<tr>
<td>20-59</td>
<td>68.8</td>
</tr>
<tr>
<td>60+</td>
<td>4</td>
</tr>
<tr>
<td>Crude birth rate (per 1,000 population)</td>
<td>33.7</td>
</tr>
<tr>
<td>Total fertility rate (births per woman 15-49 years)</td>
<td>4.0</td>
</tr>
<tr>
<td>Crude death rate (per 1,000 population)</td>
<td>3.0</td>
</tr>
<tr>
<td>Life expectancy at birth m/f (in years)</td>
<td>76.9</td>
</tr>
<tr>
<td>Infant mortality rate (per 100 live births)</td>
<td>9.2</td>
</tr>
<tr>
<td>Under-5 mortality rate (per 1,000 live births)</td>
<td>11.7</td>
</tr>
</tbody>
</table>

Sources: (NCSI, 2017) and (MoH, 2016b)

Non-Omanis make up the remaining 43% of the population. This population comprises different nationalities with various ethnic and religious backgrounds and languages. A substantial number of non-Omanis are from India, Bangladesh, and Pakistan (Central Intelligence Agency, 2017). Of this immigrant population, 83% are male (NCSI, 2016). The increase in the immigrant population in Oman is associated with industrialisation. Omani society is young and people with various specialities are needed to help the country achieve its developmental plans (NCSI, 2016). Most of the non-Omani population lives in the urban areas of Oman and only 13% of them live in the rural regions.

Oman has unique characteristics regarding its geography, culture, climate, economy, healthcare system and social structure; however, it shares many features with its Arab neighbours, particularly those in the Gulf Cooperation Council (GCC) (Oman, Qatar, Saudi
Arabian, Kuwait and the UAE). Oman has an Arabic culture (Al-Riyami et al., 2002) and a ‘multi-religious society’, in which individuals have the same rights and duties regardless of their version of Islam (Rundell, 2015). There are, however, no available statistics regarding the percentage of Omani people in the different branches of Islam. Omani culture has been described as collectivist, whereby family goals and responsibilities take precedence over individuals’ goals and needs. This collectivist culture emphasises the obligation for mutual support between families and individuals (Al-Barwani and Albeely, 2007). The Omani family has a patriarchal structure, in which the primary provider and authority source is the father or husband (Al-Barwani and Albeely, 2007).

Omani society is influenced by the religion of Islam and this also shapes individual beliefs, values and behaviours (Al Busaidy and Borthwick, 2012). Box 1.9 describes the role of Islam in guiding Muslims lives. For instance, religiously and culturally, women are not allowed to sit alone with a man who is not a close family member. Another example is that Islam instructs women in how to dress and what is suitable work for them. This is especially true for those who are involved in a mixed workforce. Such guidelines influence women in their choices of education and career (Al-Riyami et al., 2002). Arabic is the official language of Oman (Ryan et al., 2015).

Through the Quran and the Hadith (historical accounts of the life of the Prophet Mohammad, peace be upon him), Islam guides every Muslim’s life activities, including religious practices, family and social relationships, marriage, divorce, morality, economics, and politics (Sutherland and Morris, 1995). All Muslims need to obey Islamic rules. Muslims believe that Allah created all creatures, including humans, gave them bodies and asked them to take care of them. Muslim people express their gratitude to Allah for their bodies through worship and by protecting their health and preventing harm to themselves (Rahman, 1987). Islamic rules support health promotion and disease prevention, as well as seeking health care during sickness (Ali et al., 1981)

Box 1.9: Role of Islam in guiding Muslims’ lives

Oman is a developing country, which affects its health services. For more details, see Appendix 1 on the transitional development in Oman and the effect of this transition on health determinants of the Omani population.
1.10.3 Healthcare services in Oman

Health services in Oman have developed tremendously over the past 40 years alongside the economic changes discussed earlier (MoH, 2016a). In 1970, there were only two hospitals with a 12-bed capacity and 10 clinics in Oman. After the Omani Renaissance that started in 1970, His Majesty stressed the importance of health development. Box 1.10 describes the healthcare institutions in Oman. The MoH is the country’s leading agency responsible for the health sector. It develops policies and plans and implements them in coordination with all the constituents of the health sector. The public sector runs 90% of the hospitals and 98% of hospital beds in the Sultanate. The MoH is the principal provider of curative, preventive and rehabilitative services (MoH, 2015).

By 2013, the MoH was running 49 hospitals, 195 health centres and 23 extended health centres distributed throughout the country. MoH institutions provide three levels of healthcare: primary, secondary and tertiary (MoH, 2017). Primary health care (PHC) is considered to be the main entry point for other levels of care and is provided mainly in health centres and local hospitals. A Directorate of PHC and the Central PHC Committee coordinate PHC. The regional and sub-regional (Wilayat) hospitals provide secondary health care (specialised care). National referral hospitals offer tertiary care (super speciality care). Other healthcare institutions in Oman are not under MoH authority. These institutions are under the umbrella of other ministries or Sultan Qaboos University and serve only their employees and employees’ first-degree family members. However, these institutions are also considered as referral hospitals, as they offer tertiary care. The private sector also provides some healthcare services. Various private health institutions, ranging from small unspecialised clinics to major specialised hospitals, have spread across the country (MoH, 2013).

Box 1.10: Healthcare institutions in Oman

The MoH provides decentralised primary healthcare services along with specialised hospital care at the secondary and tertiary healthcare levels. This system ensures that 96% of the indigenous population has access to universal health care in the country (MoH, 2015). According to the MoH, decentralisation is an important mechanism for the delivery
of high-quality health care and it claims that all members of the population can have their health service needs fulfilled (MoH, 2015).

The government covers the expenses of the healthcare services in all the government health institutions for Omani nationals. Expatriates who work in the public sector are eligible for free healthcare services, while by law employers must cover those who work in the private sector (MoH, 2015). Migrants who have health coverage tend to prefer to go to private clinics, rather than government health institutions, for primary health provision. Payments to private clinics tend to be lower than for government health institutions. The migrant population rarely attends government primary health institutions (NCSI, 2014). Therefore, their health and health provision experiences are anticipated as being different from those of the Omani population.

1.10.4 Oman: the health transition towards chronic illness

Over the past four decades, Oman’s socioeconomic development has been very fast in response to changing demographic trends. This development has been shown through the country’s health indicators, among which the increase in life expectancy at birth has been the most notable (Morsi et al., 2012). Improvement in healthcare services has helped in controlling communicable diseases. For example, Oman implemented an Expanded Programme on Immunisation (EPI), which facilitated the early eradication and treatment of several communicable diseases. Through this programme, and for the last 15 years, Oman has reached a rate of more than 99% in covering disease immunisation for both the Omani and non-Omani population. Ultimately, this programme has helped to decrease the prevalence of “vaccine preventable disease” in Oman (MoH, 2013).

Rapid social changes, cultural advances and an increasingly ageing population since 1970 have led to the manifestation of a wide range of NCDs (Al Riyami and Afifi, 2003). Health problems related to lifestyle behaviours have been found to shadow the socioeconomic development (WHO, 2015a). NCDs and chronic illnesses make up more than 68% of all mortality types in Oman (WHO, 2015a). They also make up 38.2% and 45.7% of inpatient and outpatient morbidity, respectively (MoH, 2013). Several risk behaviours that are related to chronic diseases are of concern in Oman. MoH reports have declared that chronic conditions, such as cardiovascular diseases, diabetes, chronic renal failure, and cancer, are top of the list of chronic diseases influenced by socioeconomic and lifestyle factors (Al-Lawati et al., 2008). People with chronic illnesses need a great deal of care and follow-up from the health systems, which consumes a large amount of health expenditure.
In Oman, the costs relating to NCDs and chronic illnesses are around 52% of the expenditure on health and these diseases limit individual lives. Asthma and COPD were the most commonly responsible for morbidity from respiratory diseases (MoH, 2013). Chronic respiratory diseases, of which asthma is one, are considered one of the chronic illnesses most likely to lead to premature death (WHO, 2015a). The burden of chronic illness complications requires continuous attention and intensive follow-up from the healthcare system (MoH, 2014). Given the global burden and longevity of chronic illness, the Omani MoH needed to adopt effective management strategies. The Sultanate transferred its attention from communicable diseases to chronic conditions to address the epidemiological transition and the rise of chronic diseases in Oman. This shift was evident in the national Eighth Five-Year Strategic Plan for Health Development (2011-2015), to which the MoH added the domain of NCDs. This domain included aims and strategies for dealing with NCDs through improving care services and conducting relevant research studies (MoH, 2014). The MoH realised the importance of developing secondary and tertiary care services to face the challenge of chronic diseases. The ministry increased the hospital bed capacity and opened outpatient clinics in various specialities (MoH, 2013).

All three healthcare levels provide for chronic illness management, depending on the severity of the illness. Primary healthcare institutions are concerned more with follow-up visits and medication prescription. Secondary and tertiary healthcare institutions receive patients who require admission or are suffering from major health problems (MoH, 2013).

1.10.5 Prevalence of adult asthma in Oman

Data on the prevalence of asthma in Gulf and Near Eastern countries are scarce (Khadadah et al., 2009). In Oman, NCDs account for 68% of total deaths. Of this percentage, respiratory diseases are estimated to account for 2% (WHO, 2015a). COPD and asthma are the most common respiratory diseases and are responsible for the highest rates of hospital admission (MoH, 2013). Statistics regarding the prevalence and burden of asthma disease among adults in Oman are not available (Al-Busaidi and Soriano, 2011).

In its Annual Health Report of 2013, the MoH indicated that in 2013, 248 Omani females and 182 Omani males per 10,000 of the total Omani female and male population between the ages of 0 and 60 were diagnosed with asthma and COPD. The same report showed that 160/10,000 and 21/10,000 of females and males, respectively, in the 15-59 age group were admitted to hospital due to asthma (MoH, 2015).
1.10.6 Asthma research in Oman

Most of the studies of asthma in Oman and the Gulf countries have been done with children and adolescents with prevalence as the main focus. Few studies have focused on asthma symptoms (Al-Hajjaj, 2008), triggers (Al-Rawas et al., 2009a), control (Al-Busaidi and Soriano, 2011), cost (Al-Busaidi et al., 2013) or management of asthma exacerbation (Al-Rawas et al., 2009b). Between 2007 and 2008, Oman, along with other Gulf and Near East (GNE) countries, participated in the Asthma Insights and Reality in the GNE (AIRGNE) survey (Khadadah et al., 2009). The survey aimed to evaluate the burden of asthma and the quality of control in the region and revealed a high morbidity rate and overutilisation of emergency care (Khadadah et al., 2009). Another study conducted to evaluate the cost burden of asthma in Oman concluded that asthma treatment placed a significant load on the healthcare budget. The main cost was found to be inpatient hospitalisation and emergency visits, which were found to be higher in comparison with Europe (Al-Busaidi et al., 2013).

Industrialisation and its consequent social changes are moving Oman towards a higher prevalence of chronic diseases, including asthma. Adult women’s health is facing a great challenge as chronic illness problems increase (WHO, 2009). These issues may affect how women are able to cope with chronic illness.

1.10.7 Women in Oman

Omani women make up almost half the Omani population and more than 50% of them are of reproductive age (15-49 years). Traditionally, women in Oman were confined to domestic roles. According to the law of Islam, women’s role is to serve their husbands and children, while men are responsible for supporting the family and providing the necessities of life financially (Al-Riyami et al., 2002). In 1970, His Majesty spoke against marginalising women and, as a result, there has been a rapid rise in women’s education. Female Omani students made up 63.4% of the Omani students enrolled in various universities and colleges in 2014 (NCSI, 2016). The illiteracy rate among female Omantis reduced from 15.9% to 9.7% between 2011 and 2015 (NCSI, 2016).

The rapid development of Oman also involved Omani women’s employment, although working women still form a minority of the female population. By 2010, 27% of the Omani female population was working, compared with 9% in 1993 (NCSI, 2014). By 2014, Omani women held 44% of the jobs in the public sector (NCSI, 2014). A significant number of women work in the professions of education, nursing and medicine. They also
fill a considerable proportion of private sector jobs; however, smaller proportions of women participate in the labour force after the age of 30. Family and child-rearing duties are anticipated to be the reasons for this reduction (NCSI, 2014). As a result of their family responsibilities, married working women in Oman commonly juggle family and work responsibilities (Goveas and Aslam, 2011). The family is central to Omani society and parents and parents-in-law help women who have jobs with their household responsibilities and childcare. However, the structure of the Omani family is moving towards that of the nuclear family (Offenhauer and Buchalter, 2005), which makes it crucial for the government to consider the provision of social support services for women who have a job.

It is important to note that the movement of the Omani families to a nuclear family structure refers mainly to the physical distance of the nuclear family from other members of the extended family. However, the familial bonds of the wider extended family are still strong and influential (Offenhauer and Buchalter, 2005).

The provision of social support, such as childcare, enables women to carry out multiple roles (Goveas and Aslam, 2011). Many Omani women, especially those who are married, prioritise their family roles over their career when challenged (Al-Riyami et al., 2002). Belwal and Belwal (2014) reported a lack of family-friendly policies, such as on-site childcare, paid family leave and paternity leave, in both government and private sector employment in Oman. They indicated that many married women in Oman face problems in managing their work and home responsibilities. Omani labour law claims to protect the rights of working women and ensure gender equality in employment. There are normally five working days in the public and private sectors and Friday and Saturday are days off (Belwal and Belwal, 2014). This labour law was intended to permit individuals, especially women, to spend time with their children and families (Goveas and Aslam, 2011).

Omani women’s education and ability to access the job market shifted their status from being dependent to being co-providers and independent individuals in their society (Al-Barwani and Albeely, 2007). Through career success, women in Oman have gained greater self-confidence and become more determined than ever to play a greater role in the country’s development (Belwal and Belwal, 2014).

Culturally, whenever possible, women are advised not to travel alone and should be escorted by one of their first-degree male relatives, such as their father, brother, husband or uncle. Although the culture suggests this, it is becoming an obsolete requirement, since such relatives might be busy going to their own jobs. Women in Oman have the freedom to
drive. By 2017, Omani Police had issued 171,603 driving licences, of which 32,880 were for women. This proportion included women who had jobs outside the house and those who were housewives (women who carry out household duties without having a job outside the home). However, this figure was not specified by nationality (NCSI, 2017). Some women drive themselves to healthcare institutions, while others may fail to reach healthcare facilities because an escort was not available. This happens despite most of the government health institutions, in particular, those offering primary healthcare, being within a reachable distance (1-2 kilometres) and women could reach them by walking from their home. The cost of a taxi for this distance is around 400 Omani Baisa, which is equal to less than 1 GBP. One explanation for this might be the reluctance to travel without an escort, which is usually the husband or a family member, in line with the country’s traditions, or because women know how to drive or have a car (WHO, 2010).

People have cited several reasons for the need for Omani women to have a driving licence. The major one is to travel to work. Many women go out to work to shape a career for themselves and to supplement their family’s income (Goveas and Aslam, 2011; Ryan et al., 2015). Several housewives have also presented good reasons for being able to drive, including their need to be independent and having a husband who might be at work. That the husband is not always available at home places the responsibility for the home and children on the woman, which necessitates her driving. The last two reasons would also apply to women who have a job (El-Haddad, 2003; Goveas and Aslam, 2011; Ryan et al., 2015). The transport difficulties experienced by Omani women contribute to their choice of healthcare services and their attitude towards attending their follow-up visits.

### 1.11 Summary

Asthma is a chronic health problem that has no cure and affects all age groups. Its prevalence is increasing worldwide (Becker and Abrams, 2017). Good asthma management is specified in a number of available guidelines, with GINA being the most influential. However, these guidelines have all been developed in Western countries, mainly the US and UK. Asthma management guidelines in Oman are aligned with those in GINA. The chapter highlighted that asthma creates physical, psychological and social burdens that need to be addressed and explored. People with chronic illness tend to share some similar experiences, including biographical disruption, stigma and uncertainty. They also share similar challenges in managing their illness and seeking appropriate healthcare services. However, their experience needs to be situated within their social context.
Differences in culture, social structure, healthcare services and national health policies need to be acknowledged and addressed.

When considering the particular status of women in Oman, they are affected by their roles as women, as well as the social changes taking place. It is anticipated that their experience with asthma might be different from that of the women in the studies reviewed.

This chapter provided background information for the current research and its setting. It introduced the general concepts of chronic illness and their various theoretical perspectives and discussed the burden of asthma worldwide and in Oman in particular. More importantly, this chapter highlighted the various dimensions of the Omani context and specifically those of the lives of Omani women that would contribute to their unique experience with chronic illness in general and asthma in particular.

The next chapter presents a review of the literature and the place of this type of review in a grounded theory study. It also presents current evidence regarding living with asthma, the influence of the condition on people’s lives, and the organisation of health services.
CHAPTER TWO
LITERATURE REVIEW
2.1 Introduction

This chapter summarises the existing literature on the experience of adult women living with asthma and provides a detailed analysis and discussion. The chapter aims to identify the main themes in the research and highlight the similarities and differences between studies in order to identify gaps in the knowledge about the experience of women living with asthma.

The review begins with an overview of the debate on the place of a review of the literature in grounded theory, followed by a rationale for the use of a narrative review. It then presents the search strategy and description, synthesis and critical appraisal of the reviewed studies. The chapter ends with the strengths and limitations of the studies and the gaps in knowledge identified.

2.2 Literature review as part of grounded theory research

This study adopted the principles of grounded theory. The timing of when to consult the literature has been a point of debate within grounded theory (Charmaz, 2014). For example, Glaser discouraged reviewing the empirical literature at the beginning of a grounded theory study, suggesting that this might contaminate the data by giving the researcher preconceived ideas before commencing data collection and thus reduce the researcher’s sensitivity to the material (Glaser, 1978; Glaser, 1998). However, at this point, he recommended that researchers should broadly review the theoretical literature. At a later stage, when the themes start to emerge, he acknowledged that the empirical literature could be approached and read (Glaser, 1978).

Corbin and Strauss (1990) suggested that approaching the empirical literature at an early stage of research helps to identify the concepts essential to the study. They also highlighted the importance of using the experience of the researcher, as well as the literature, to extend the analysis of the data. McGhee et al. (2007) argued that it is impossible for researchers to ignore their prior understanding of their areas of interest. Other grounded theorists, such as Hallberg (2010) and Dunne (2011), questioned the practicality of not reviewing the literature in the early stages of research. They found it an important section of a research
A proposal that enables researchers to gain ethical approval and funds for their research. The theoretical literature was seen as valuable in justifying and explaining a particular study (McGhee et al., 2007). Reviewing the existing literature is considered “a prerequisite to designing new studies” (Collins and Fauser, 2005 p, 103). A preliminary review of the theoretical literature relevant to the current research is included in the background chapter in section 1.6.

As the researcher is a PhD student, reviewing the literature and providing a summary of published studies was a requirement for applying for ethical approval. It was important for the researcher to orient herself to the previous studies conducted in her area of interest. The review was also especially valuable for her as a novice researcher in deciding and informing the design of the current study. The researcher’s personal and professional background in the medical field made it impossible to enter the research area without any prior assumptions.

### 2.3 Narrative review

There has been tremendous growth in scientific literature. Conducting a systematic or narrative review helps practitioners, policymakers and researchers to keep pace with the research. Reviews help users to summarise and synthesise the huge amount of knowledge available and there are a number of different types of review which serve various purposes.

A systematic review is more appropriate for studies that have a focused research question (Bent et al., 2004). In contrast with a narrative review, a systematic review uses a clear and more rigorous approach to search, appraise and synthesise the literature (Collins and Fauser, 2005). It aims to provide as complete a list of relevant studies as possible (published and unpublished) on a specific topic of interest (Cronin et al., 2008). However, not all kinds of questions and topics provide a simple answer of right or wrong, as, because of their narrow focus and prescribed methods, systematic reviews can be restrictive in providing the comprehensive coverage needed in qualitative research (Collins and Fauser, 2005). To gain a broader coverage, a less restrictive method is recommended.

A scoping review is used when the researcher is addressing a broader, often novel question; it may involve multiple structured searches but might not include an assessment of the quality of the studies included (Arksey and O'Malley, 2005). Unlike a systematic review, the research question in a scoping review may be developed as the result of an
iterative process as the researcher becomes more familiar with the literature (Levac et al., 2010). A scoping review draws on findings from studies with various research designs.

A narrative review is useful in providing a scholarly overview of a topic (Norman and Griffiths, 2014). Topics which involve broad questions can benefit more from a narrative review. In this era of increasing numbers of systematic reviews, narrative reviews have been accused of having several limitations, including being inconsistent with the evidence and with one another (Norman and Griffiths, 2014). Such inconsistency has been attributed to reviewer bias in selecting studies and the interpretation of the results of combined studies (Bent et al., 2004; Dijkers, 2009).

Norman and Griffiths (2014) suggested several good reasons for writing and reviewing narrative reviews. Narrative reviews pull together information about a topic and present it in a readable format. They are usually more up to date than textbooks. They also present the topic or problem of interest in a historical context or describe its development. Cronin et al. (2008) maintained that narrative reviews are comprehensive and cover a wide range of areas related to the topic of interest. They are valuable when the researcher intends to synthesise the existing literature on a specific topic comprehensively. They are also useful in identifying and discussing key theories and concepts used in the literature (Caelli et al., 2003). Narrative reviews are useful for presenting the philosophical standpoints of a topic in a balanced style (Norman and Griffiths, 2014). Narrative and scoping reviews were deemed to be appropriate to provide a sense of the range of published studies that examined the experience of adult women living with asthma.

Despite the criticism of being ‘unsystematic’ and ‘subject to biases’, narrative reviews can still be conducted rigorously and systematically, even though their purpose differs from that of a Cochrane-style systematic review (Caelli et al., 2003). Although narrative reviews might not provide a scientific basis for healthcare decisions, they contribute enormously to the knowledge base of health care (Norman and Griffiths, 2014).

All types of reviews provide a set of tools that the researcher needs to use appropriately. In any review, it is important to present explicit information on the search strategy and the decisions related to it (Collins and Fauser, 2005). This transparency helps readers to evaluate a particular review (Dijkers, 2009). Therefore, as a novice researcher, I applied a systematic search strategy to a narrative review to maintain the structure and consistency of the review process and present the review findings (Green et al., 2006).
2.4 Aim of the literature review

This review aimed to identify, critically appraise and synthesise empirical studies that have examined adult women’s experience of living with asthma. Moreover, the search aimed to examine the research methods used and identify any gaps in the literature. Overall, its aim was to provide a comprehensive overview of women's experience of living with asthma (Green et al., 2006).

2.5 Review questions

The following review questions were selected to be pertinent to the overall aim of the study and used to shape this review:

1. How do adult women describe their experience of living with asthma?
2. How has having asthma affected the women’s lives?
3. What strategy do women use to incorporate asthma into their lives?
4. How do women manage their asthma?
5. What is the experience of adult women of services provided for asthma?
6. What are the views of adult women on the self-management of care of asthma?

2.6 Search strategy

For this review, a search was performed in the following eight electronic databases, which were deemed to be relevant to the perceptions of women with chronic disease: Web of Science, ASSIA (ProQuest), Medline via Ovid, Psych-info (Ovid online), PubMed, EBSCOhost CINAHL, Scopus, and Global Health. The studies were also identified through a manual search of the reference lists of the articles included. Google Scholar was also searched for Arabic articles using terms equivalent to those in English. The search was limited to peer-reviewed studies written in English between 2000 and July 2018. The date limits chosen reflect key changes in asthma management. By 1995, the Global Initiative for Asthma had published its first report, entitled ‘A Global Strategy for Asthma Management and Prevention’. By the late 1990s, these guidelines had been translated into several languages and widely adopted and became a foundation of asthma management in several nations across the world. It is, therefore, logical to presume that clinicians practising after that time would have been influenced by the guidelines, even if they had not formally adopted them. Accordingly, it is also reasonable to assume that the experiences of adult women in relation to asthma diagnosis, treatment, self-management, and the use of services had also changed over time (the 1990s). Over that same period,
significant changes to asthma management occurred (Reddel et al., 2015). During the 1990s, GINA guidelines were based upon expert opinion, due to the lack of randomised controlled trials of asthma management. The turn of the century was marked by the establishment of evidence-based medicine, which became a required component of the revised guidelines (Kroegel, 2009).

Setting inclusion criteria helps in understanding how the studies included are relevant to the study area. It also minimises author bias (Green et al., 2006). The inclusion and exclusion criteria presented in Table 2.1 were used to narrow the search to ensure the relevance of the studies to the aims of the review.

Table 2.1: Inclusion and exclusion criteria

<table>
<thead>
<tr>
<th>Inclusion criteria</th>
<th>Exclusion criteria</th>
<th>Justification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Studies of patient experience</td>
<td>Non-primary studies</td>
<td>Provide a rich and in-depth description of the experience of illness</td>
</tr>
<tr>
<td>Qualitative research and mixed methods research</td>
<td>Purely quantitative research</td>
<td>Whilst they may employ self-report, quantitative studies are not based on individuals’ accounts of their own experience. Instead, the analysis normally tests the researcher’s prior theories using fixed choice questions</td>
</tr>
<tr>
<td>Involve adult women with a primary diagnosis of asthma (mild, moderate or severe)</td>
<td>Studies that include children or the elderly as the only population.</td>
<td>The experience of children is believed to be different and their experiences are mainly reported by their parents or carers. Adolescents’ experiences are different from those of adults.</td>
</tr>
<tr>
<td></td>
<td>Studies concerning other chronic respiratory disease. Studies including asthma patients who have comorbidities.</td>
<td>Having other illness in addition to asthma will influence the illness experience.</td>
</tr>
<tr>
<td>Studies with a primary focus on the physical, psychological and social experience of living with asthma.</td>
<td>Perspectives of family members or others on adult’s experience of living with asthma.</td>
<td>Primary focus is on individual patient experience.</td>
</tr>
</tbody>
</table>
Setting comprehensive parameters is important to ensure the feasibility of a search and to retrieve the maximum number of relevant studies (Green et al., 2006). In this study, the search terms were taken from the main research aim and the review questions.

To obtain relevant articles, different combinations of key terms and their synonyms were used in the different databases. To refine the search, the search terms were combined using ‘AND’ and ‘OR’ (see Appendix 2). The MeSH terms, Boolean operators and search terms used depended on the rules and limitations of the various databases that were searched. Appendix 3 provides an example of the search process.

2.7 Assessment of the quality of the selected studies

Several validated tools are available to enable systematic assessment of the quality of studies. However, most of the tools were developed to assess specific designs, which could make it difficult to apply their criteria to various types of design. This review included studies using various methodological approaches. I required a tool that would enable an initial assessment of the quality of heterogeneous empirical studies. Initially, I assessed the quality of the retrieved studies using a critical appraisal tool developed by Hawker et al. (2002), which evaluates studies using a systematic review approach (see Appendix 4).

Hawker et al.’s (2002) tool was designed to evaluate the quality of primary studies that use various research methodologies and paradigms. The tool has nine criteria, each rated using a 4-point Likert scale, from 1 point (very poor) to 4 points (good). On aggregation, the highest score is 36 and the lowest is 9. The main reasons for using this tool were as follows:

1. It could assess the quality of the research studies using different paradigms.
2. It has an explicit protocol that enables the researcher to carry out a fair evaluation of the quality of empirical studies and ensure consistency.
3. The total score and sub-scores of the criteria provide an overview of the strengths and limitations of each study. The nine criteria are used to analyse various areas of empirical studies and enable the researcher to have adequate and clear details about how the scores were decided (Hawker et al., 2002).
4. Its criteria are similar to the Critical Appraisal Skills Programme (CASP, 2017), which is a qualitative research checklist. However, Hawker et al.’s (2002) tool has a scoring system that is not available in CASP.
2.8 Findings of the search

As shown in Table 2.2 below, the search yielded a total of 2,876 studies. After removing duplicate articles, a total of 2,040 remained. The study titles were screened and their abstracts reviewed to assess their relevance to the experience being researched. This process resulted in excluding 1,965 articles because they were either not related to the current research topic or were purely quantitative. The focus of this review was to understand the in-depth experience of women living with asthma. Most of the identified pure quantitative studies were surveys, correlational research or interventions using a structured tool; mainly a questionnaire. Accordingly, the results of these studies were not based on individuals’ interpretations of their own experience within their social context. Instead, the analysis tested the researcher’s prior theories. Moreover, the studies did not include sub-group analysis by gender, which did not, therefore, help in understanding the experience of adult women living with asthma. This left 75 articles for full textual analysis. A further 38 articles were excluded because they either did not cover women’s perceptions and experiences; the population age was not within the range of this study’s population; or the paper’s main focus was measuring quality of life. This left 37 highly relevant articles that met the inclusion criteria presented in Table 2.1. Eight further studies were identified from the reference lists. Figure 2.1 summarises the search strategy process and the results from the literature.
Table 2.2: Studies included after titles and abstracts reviewed

<table>
<thead>
<tr>
<th>Databases</th>
<th>Initially identified studies</th>
<th>Duplicate s</th>
<th>Total relevant for screening the title and abstract</th>
<th>Excluded</th>
<th>Retrieved for full text</th>
<th>Studies included in the synthesis</th>
<th>Studies identified through reference lists</th>
</tr>
</thead>
<tbody>
<tr>
<td>Web of Science</td>
<td>358</td>
<td>170</td>
<td>161</td>
<td>9</td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ASSIA (ProQuest)</td>
<td>361</td>
<td>211</td>
<td>201</td>
<td>10</td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medline via Ovid</td>
<td>507</td>
<td>302</td>
<td>287</td>
<td>15</td>
<td>7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Psych-info (Ovid online)</td>
<td>426</td>
<td>351</td>
<td>341</td>
<td>10</td>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PubMed</td>
<td>405</td>
<td>290</td>
<td>277</td>
<td>13</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EBSCOhos: CINAHL</td>
<td>308</td>
<td>287</td>
<td>280</td>
<td>7</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scopus</td>
<td>326</td>
<td>297</td>
<td>291</td>
<td>6</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Global Health</td>
<td>185</td>
<td>132</td>
<td>127</td>
<td>5</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>2876</td>
<td>836</td>
<td>2040</td>
<td>1,965</td>
<td>75</td>
<td>37</td>
<td>8</td>
</tr>
</tbody>
</table>
Figure 2.1: Flowchart of literature search summary
2.9 Description of the synthesised studies

As shown in Figure 2.1, the studies reviewed were conducted in six countries, most of them carried out in the UK (n=14) and the US (n=14). The cited studies used various sources of data and research methodologies, thus strengthening the comprehensiveness of this narrative review. However, only one study was conducted in a Muslim country: Turkey (Oncel et al., 2012). No studies were found in Arabic countries, in the Arabic states in the Gulf region, or in Oman in particular. Of the 45 studies, three employed a mixed methods approach (qualitative and quantitative), while the remaining studies used a purely qualitative methodology (see Appendices 5 and 6). Reviewing the literature was an ongoing process throughout the research process and included all the studies identified during the period 2000-2018.

Although women were represented in every study, most of the studies did not explicitly discussed gender issues. Three studies sampled women only: (Alzayer et al., 2018), Melton et al. (2014) and van Mens-Verhulst et al. (2004); however, the rest did not address the distinctive experience of women. Appendix 7 gives the number or percentages of female participants in the studies reviewed.

2.10 Synthesis of the review findings

In scanning the literature, 45 studies were found to be relevant to people’s experience and perspective on living with asthma. I used thematic synthesis to synthesise the results generated from the identified papers (Thomas and Harden, 2008). Based on the review questions, several themes emerged across the reviewed studies. The key findings across articles were identified. The review themes form subheadings in the synthesis, answering the review questions. The distribution of the studies as per the themes discussed is given in Appendix 8. The studies reviewed specifically address the experiences of women with asthma. Therefore, the researcher uses the word ‘people’ instead of ‘women’ throughout the following synthesis sections.

2.10.1 Effect of asthma on people's lives

Fifteen studies provided evidence on this theme. Participants of four studies specified the physical effect of asthma on their lives (Mancuso et al., 2006; Oncel et al., 2012; O'Conor et al., 2017; Cheung et al., 2018). The participants of the four studies described the restriction asthma caused on their lives. A phenomenological study in Turkey reported that asthma was perceived by some participants as a disease that limits life and causes the
sufferer to have negative feelings (Oncoel et al., 2012). This notion emerged due to the perceived limitations asthma placed on people’s physical, social and mental status, which led to disruption in their daily lives. This finding was congruent with another qualitative study conducted in the US (Mancuso et al., 2006). It was conducted using open-ended interviews involving 60 patients with asthma and most of the participants reported physical limitations of asthma, such as climbing stairs and going outdoors. In both studies, participants attributed the limitations to their experience of nocturnal symptoms of asthma, including breathlessness, coughing and wheezing.

The effect of asthma on financial status was reported in one study only, which was conducted in the US (Goeman et al., 2002). In this study, 70% of the participants were employed, 30% were either retired or had home duties, and 90% were 18-59 years of age. Participants attributed their situation to the effect of their physical symptoms on the performance of their jobs, mainly due to tiredness and experiencing nocturnal symptoms. Notably, 58% of this study’s participants reported not having a healthcare card, which could partially explain their responses and the overall emergence of this theme. Such a case would not be relevant in other countries, such as the UK or in Middle Eastern countries, where health insurance is different or does not exist. Among the 10 studies that included this issue, only four presented the key questions of their interviews or focus group discussions. Of those questions, none directly asked about the effect of asthma on the financial status of the participants. The remaining six studies did not seem to explore this aspect, as it does not appear among the themes discussed.

Fifteen qualitative studies provided evidence that asthma caused emotional distress. In these seven studies, patients spoke of various negative feelings. A qualitative study using semi-structured interviews suggested that patients developed negative feelings upon the diagnosis of asthma (Al-kalemji et al., 2014). Some patients stated that their asthma diagnosis provoked a feeling of confusion and defeat, rather than clarification. Some patients in Oncel et al. (2012) study described feeling anger on being diagnosed with asthma.

Feelings of worry and anxiety recurred in seven studies. In six of the studies, participants associated their anxiety with their uncertainty about asthma exacerbations, which led many patients to view asthma as unpredictable and increased their fear and uncertainty (Goeman et al., 2002; Mancuso et al., 2006; Oncel et al., 2012; Al-kalemji et al., 2014; O’Conor et al., 2017; Cheung et al., 2018). Some participants in the studies by Al-kalemji et al. (2014)
and Cheung et al. (2018) linked their anxiety regarding the impact of an asthma attack with preventing them from undertaking their normal activities, a few associated it with concerns about the inheritance of the disease and the possibility of passing it to their children. The latter perception might indicate that the participants were concerned about the effect of asthma on their families, as well as upon themselves. In a participatory study in Canada, participants described their feelings during an asthma attack as “there was no hope” and “I may die” (Poureslami et al., 2011, p. 316-317). According to the participants, these feelings led them to isolate themselves and they did not want to appear in front of others as people who lacked control over their condition. The four focus groups in this study (n=29) included Iranian, Chinese, Punjabi and Latino patients with asthma. Three of the five studies did not specify the severity level of their participants’ asthma. However, in the study by Goeman et al. (2002), participants with severe asthma made up more than 50% and Al-kalemji et al. (2014) had four participants with severe asthma among a total of 10. People with severe asthma are expected to have a different experience.

Mancuso et al. (2006) reported that most patients experienced strong emotional feelings, including fear, annoyance and embarrassment, and many described asthma as “humbling” and “depressing”. The feeling of embarrassment was also mentioned in three more studies (Oncel et al., 2012; Al-kalemji et al., 2014; Alzayer et al., 2018). In all three studies, embarrassment was attributed to the experience of asthma symptoms, especially wheezing and coughing, in public. Participants stated that they wished they could hide their asthma symptoms from others because they thought other people would not understand the meaning of having an asthma attack. The participants of Alzayer et al. (2018) study also attributed their feeling of embarrassment to having used medication in front of others. Most of the participants in Trochtenberg and BeLue (2007) study, who were African-American, reported feeling pressurised by their community to hide their symptoms, which caused them to feel helpless and embarrassed during an asthma attack.

Through individual interviews, Tumiel-Berhalter and Zayas (2006) suggested that participants experienced worrisome feelings about asthma. They invoked terms such as “enemy”, “demon”, “deadly” and “traitor” to indicate their fear of an asthma attack. However, the study included patients and caregivers of patients with asthma and presented no clear distinction between the accounts of the sample groups. Similarly, participants in McClelland and Huttlinger (2012) study conceptualised their asthma symptoms using the notions of “imprisonment” and “war”. They felt they were locked in with their asthma
symptoms and wished to be free of them, which indicated how undesirable these patients felt the experience of their disease and its symptoms to be.

Five studies reported participants feeling hatred towards their illness (Goeman et al., 2002; Hussein and Partridge, 2002; Mancuso et al., 2006; Oncel et al., 2012; Al-kalemji et al., 2014). While most of the studies attributed this to the impact of an asthma attack on preventing them from undertaking their normal activities, some participants in Goeman et al. (2002) study hated their asthma because of its impact on family members and their relationship with a partner. None of the five studies identified any differences between the terms used by men and women. This could be attributed to none of the studies presenting an explicit account of any differences between men and women, which made it difficult to gain a clear understanding of any differences in women’s experience.

Mothers with asthma in van Mens-Verhulst et al. (2004) study reported experiencing the feeling of guilt. The sample of this study was eight women, all of whom were mothers (Dutch and Canadian). The women attributed their feeling of guilt to the conflict they perceived between their need for space while experiencing an asthma attack and their mothering. They considered their need for space as a rejection of their children, which made them feel guilty. They also attributed their feeling of guilt to their perception that asthma not only threatened their lives, but also those of their children. They linked this perception to beliefs about the hereditary nature of asthma. The participants had one or more children each, and 13 of the 19 children also had asthma. Some women in the study also expressed feeling guilty about their inability to carry out their duties as mothers and missing opportunities with their children. However, they mentioned that the feeling of guilt was compounded by other negative feelings, which was described by the authors as a spiral. Feeling guilty made the participants try to compensate for their deficiencies by “overdoing it” during their good times, which, “requiring too much from them”, precipitated “bad days”. Women’s internalisation of guilt was not discussed in any other study in this review. This could indicate that it is an issue specific to women that warrants further exploration.

The experience of stigma was reported in five studies (Hussein and Partridge, 2002; Cvetkovski et al., 2009; Andrews et al., 2012; Al-kalemji et al., 2014; Alzayer et al., 2018). Al-kalemji et al. (2014), and Alzayer et al. (2018) mentioned that many of their participants demonstrated concerns about being stigmatised by their asthma and its treatment. They revealed their worry of being classified as “less good” if they disclosed
their asthma. To them, asthma was something about which they could not talk. As a result, they could not complain about their symptoms at work or take their medication in an open place, as they considered having asthma should be secret. Many of the participants in the study by Hussein and Partridge (2002), who were Asian, thought that asthma was not accepted in Asian society and, therefore, they could not confront others with the knowledge that they had the disease. In both studies, participants linked their fear of disclosing the diagnosis with their inability to explain asthma disease to others and their conviction that the general population lacked knowledge about it. Participants in Hussein and Partridge (2002) study were Pakistani and Indian; however, their religious backgrounds were not mentioned. This information was also not made available by Al-kalemji et al. (2014). Stigma is socially constructed and differs between cultures. It is expected that the meanings and attributes of asthma differ from one culture to another, including the Omani context.

In Hussein and Partridge (2002) and, Al-kalemji et al. (2014) some participants established that being stigmatised by others as a sick person negatively influenced their self-worth. Moreover, some patients reported viewing asthma as part of their identity, which caused them to think of themselves as not being normal. Similarly, mothers in van Mens-Verhulst et al. (2004) study reported that having asthma affected their self-concept negatively. They attributed this feeling to the marked effect of asthma on both their daily and family life. As a result, and despite their asthma, these women were trying to maintain their normality as mothers and the routine of their family life. This finding is considered exceptional because no other study in this review revealed it.

Cvetkovski et al. (2009), Andrews et al. (2012) and Al-kalemji et al. (2014), reported the fear of being stigmatised hindered successful asthma management in some people with the disease. Participants experienced the social stigma of being labelled as sick or weak if they used medication and this affected their attitudes to self-managing their asthma, especially in public. They associated their concern with the lack of public awareness about asthma. Accordingly, they reported dropping activities that might provoke asthma, instead of seeking treatment. To them, taking asthma medication was mostly seen as a private matter that should be done on safe territory. Again, the differences between how women and men experienced stigma and its influence on their asthma management were not made explicit.

This section establishes that asthma symptoms cause physical limitations in carrying out the activities of daily living. Three studies mentioned the effect of asthma on family (Goeman et al., 2002; van Mens-Verhulst et al., 2004; Al-kalemji et al., 2014). The effect
of asthma on employment was mainly related to the physical symptoms. Several studies highlighted emotional distress; most common were the feelings of anxiety and hatred because of uncertainty and its impact on the performance of daily activities. Only four studies highlighted the effect of asthma on self-concept and self-worth, only one of which included women. However, only the women in the van Mens-Verhulst et al. (2004) study related this to the impact of asthma on family and their roles and responsibilities towards their family members. The other two studies did not present explicit discussion of the experience of the impact of asthma on women. Feelings of guilt were identified in one study and were also related to mothers’ inability to carry out their duties as mothers and missing opportunities with their children. This particular women’s issue was not discussed and such women’s experiences were scant in this review.

2.10.2 Living with asthma day to day

Several studies reported how people with asthma adjust their lives to manage their disease (Paterson and Britten, 2000; van Mens-Verhulst et al., 2004; Tumiel-Berhalter and Zayas, 2006; Loignon et al., 2009; Ross et al., 2010; Keddem et al., 2015; O’Conor et al., 2017; Cheung et al., 2018). In Canada, people with asthma perceived living with asthma as a process that required various levels of adjustments and changes in their perspective over time, including both trial and error and learning one’s limitations (Ross et al., 2010). On the other side, participants in Loignon et al. (2009) believed that the adjustment to living with asthma was a matter of balancing between the good and the bad. Participants in both studies stated weighing their ability to engage in normal activities that were aligned with their values and beliefs against the discomfort imposed by asthma or its management, including interaction with the healthcare system (Loignon et al., 2009; Ross et al., 2010).

Congruent with Tumiel-Berhalter and Zayas (2006) and Trochtenberg and BeLue (2007), the participants in Cheung et al. (2018) study described their efforts in trying to control household triggers and avoid physical exertion, stress and environmental triggers. However, many participants in both studies described frustrations due to a perceived lack of control. In Tumiel-Berhalter and Zayas (2006) study, some participants engaged in new activities related to what they loved to do, such as swimming. The number of women was not specified in these studies and their accounts were not made explicit.

Most participants in Oncel et al. (2012) study described how their acceptance of asthma facilitated living with the disease. They indicated their acceptance of having a chronic illness and that their asthma would never be cured. According to their accounts, they accepted asthma in order to be able to live with it. Conversely, some participants in this
study followed denial of asthma as a strategy for living with it. They conveyed their hope of recovering from asthma and believed that it was a disease that could be cured completely. The authors related the participants’ acceptance to cultural perspectives on chronic illness. The authors maintained that Turkish people view chronic illness with a fatalistic perspective, whereby they always think it could have been worse. I believe this is a speculative analysis. The study findings revealed that time was an important factor in accepting asthma, which indicates that participants’ acceptance was gradual and could be unrelated to their faith or that faith was not the only factor. In addition to the denial strategy, the participants in Alzayer et al. (2018) study described fatalism, depression and self-blaming as their coping styles for living with asthma. The participants in Alzayer et al. (2018) study were all women.

The participants of Cheung et al. (2018) study described using an avoidance strategy whenever they perceived that their disclosure of their asthma may lead to misunderstanding. They reported their attitude of not using medication in public and not sharing their health details. Several participants in O’Conor et al. (2017) described living with asthma by continuing their daily activities and not allowing asthma to get in their way. The participants described this strategy in a positive way. However, the authors viewed it as maladaptive coping which hindered the participants’ engagement in self-management activity.

Four studies identified the importance of social networks in supporting living with asthma (van Mens-Verhulst et al., 2004; Cvetkovski et al., 2009; Andrews et al., 2012; Cheung et al., 2018). Some participants in Cheung et al. (2018) study described the support network of their family and friends as contributing to their not feeling different or alone.

Mothers in the van Mens-Verhulst et al. (2004) study identified the importance of social support provided to help them to live day to day with their asthma. Despite its small sample size, the study is an exceptional one in this review, as it specifically considers women’s perspectives in more detail. It included women of varying ages and class backgrounds. Six of the eight mothers reported receiving practical and emotional support from their children, including understanding of their mother’s asthma. The study included women who were diagnosed with asthma before their children were born and all of them had severe asthma. The authors speculated that, because the women were diagnosed a long time before having children, they had learned how to manage asthma before becoming a mother. However, the women’s accounts presented a dilemma regarding whether or how much they should ask their children for help. Some women perceived asking for help from
their children as a violation of the “norms of mothering”, in which children are supposed to ask for help from their mothers but not the opposite. The study concludes that even simple tasks that children help with that are considered quite normal in ordinary life could take on a different significance for people with chronic illness. The women’s dilemma indicates their constant struggle in living with asthma. For this sample, having a partner did not help much with asthma management. Of the five women who had a partner, only one reported feeling supported. Notably, this partner had asthma himself. Most of the women with a partner explained shortcomings in their partner’s support as a lack of understanding of asthma and the demands of the partner’s job. The women stressed that the attitude of family members, friends and neighbours was important in living with asthma. As there is no explicit discussion of differences between men’s and women’s experiences in this review, whether such experiences are unique to women is difficult to establish.

Some participants in the studies by Cvetkovski et al. (2009) and Andrews et al. (2012) expressed their need and desire to attend or interact with a support group. They believed it could reduce the social isolation and loneliness they were experiencing. Notably, neither study reported the severity level of their participants’ asthma. The authors of these studies suggested a strong relationship between social support and people’s self-efficacy as having a direct impact on their self-management behaviour.

2.10.3 Experience of patients with asthma, medical treatment and factors influencing their practice

Four sub-themes were identified as explaining the experiences of patients with asthma management and factors that influenced their practices: practices for managing asthma; experiencing intermittent illness and lack of acceptance; challenges in using medical treatment; and facilitators of asthma management. Each of the sub-themes is discussed further below.

2.10.3.1 Practices for managing asthma

The synthesis of six studies established that people presented three distinct behaviours in respect of their medical treatment (Goeman et al., 2002; Hussein and Partridge, 2002; Haughney et al., 2004; Denford et al., 2013; Al-kalemji et al., 2014; Peláez et al., 2014). These behaviours were taking medication exactly as prescribed, adhering to only some components of asthma treatment (e.g., avoiding environmental triggers, rather than using medication), and being actively involved in treatment whereby they adjusted treatment in response to specific needs. Some participants in Al-kalemji et al. (2014) and Peláez et al.
(2014) reported managing their asthma in a similar manner to the way they tackled any other problem. This involved their experimentation with what worked and what did not in order to develop their own way of managing their asthma. However, these studies did not discuss the severity of the participants’ asthma. While the level of asthma severity was not mentioned in Peláez et al. (2014), Al-kalemji et al. (2014) suggested that four of their 10 participants had severe asthma. People with severe asthma might have different experiences and perceptions of asthma and different strategies for managing and living with it. This issue merits explicit discussion of patients with different levels of asthma severity.

All six studies also indicated that some participants adjusted their treatment in response to asthma attacks, while others stopped taking their treatment altogether. The studies indicated that people were more likely to use their reliever medications. However, compliance with preventer medication was commonplace. In most cases, this behaviour was seen independently of people’s understanding of their disease. The majority of the participants in these studies reported their awareness of the differences between reliever and preventer treatments. Many of them used their experience to manage their asthma symptoms. The patients included in four of the studies above had disease duration of at least 12 months, while Al-kalemji et al. (2014) and Hussein and Partridge (2002) did not specify the disease duration of their participants. Disease duration could influence people’s perception of their illness. For example, Al-kalemji et al. (2014) stated that their participants had accepted asthma with time. It also influenced how they managed their illness, as the participants experimented with what worked for them and developed ways to accomplish “satisfactory management” over time.

However, five studies established that most of their patients also sought complementary/alternative therapies, among the most common of which were herbal medicine, home remedies, breathing techniques, homoeopathy, prayer and relaxation. In most cases, people mentioned using these therapies in combination with their medication. Moreover, despite their preference for the use of complementary/alternative therapies, the five studies reported participants resorting to medical treatment for managing asthma exacerbations. Four of the five studies were conducted in the US (George et al., 2006; George et al., 2014; Pai et al., 2014; Mowrer et al., 2015) and one in the UK (Shaw et al., 2006). Although the majority of participants in these studies were women, women’s experience in using complementary therapies and the reasons behind it were not made distinct. African-Americans were the majority in three studies, while one included only Latino and Hispanic
participants, and in one study participants’ ethnicity was not specified. All studies except one included adults and parents of children with asthma but the distinction between the experiences of the two groups was not made clear. The experience of a different group of people of different ages, genders and other socio-demographic factors are summed under one experience. This made it hard to understand the experience of a specific group, such as women.

The review synthesis also identified various influences that shape how people manage their asthma. The following sections discuss these influences.

2.10.3.2 Intermittent illness and lack of acceptance

Section 2.10.2 highlighted the way in which participants’ acceptance of their asthma as a chronic illness influenced their day-to-day living with the condition. This section discusses how people’s perception of their asthma influenced their health behaviours in managing their asthma. Five studies established that many of their participants did not come to recognise asthma as a disease that could have an impact on their daily life and limit their daily activities (Caress et al., 2002a; Oncel et al., 2012; Denford et al., 2013; Al-kalemji et al., 2014; Mowrer et al., 2015). Al-kalemji et al. (2014) reported that many of their participants believed that asthma is not serious, which discouraged many of them from taking their medication. This group did not recognise asthma as a chronic condition that needs to be controlled and disregarded the seriousness of their symptoms. This perception of asthma translated into patients’ intake of medication solely when experiencing symptoms. A similar notion was suggested in Caress et al. (2002a), an exploratory study in which some of the participants perceived asthma as an acute disease and wondered why their asthma had not yet been cured. These findings were congruent with those identified in two other studies (Oncel et al., 2012; Denford et al., 2013), in which asthma was viewed as a condition from which people could recover. Notably, many participants in Oncel et al. (2012) study reported their denial of asthma as a chronic illness. The participants in Mowrer et al. (2015) linked this belief to their refusal to acknowledge that they would need to deal with asthma for the rest of their life. All the aforementioned studies also indicated that many of their participants (mainly with mild to moderate asthma) who did not regard asthma as a chronic disease did not see the need for regular monitoring and therapeutic adjustment. Therefore, asthma medical treatment was perceived as unimportant and unnecessary by many participants in these studies. People with severe asthma might have different beliefs about asthma.
In contrast, six studies showed that some participants viewed asthma as a long-term condition (Haughney et al., 2004; Mancuso et al., 2006; Oncel et al., 2012; George et al., 2014; Peláez et al., 2014; Peláez et al., 2015). The mostly black participants of George et al. (2014) study viewed asthma as a long-term condition irrespective of whether they had symptoms. This idea emerged due to the experience of an asthma attack and their acceptance of having a chronic illness. Notably, 71% of this study sample were women, who had uncontrolled asthma, which could explain their perception of asthma as a disease whose consequences and exacerbation of attacks could not be predicted. This finding was similar to a mixed methods study conducted in the UK (Haughney et al., 2004). The study’s participants represented various levels of asthma severity, different geographical locations, and both genders. The study reported that asthma and its symptoms were viewed as chronic and a life-long condition that patients had to live with and it was considered as a disease that could not be controlled or managed. All studies reviewed under this sub-theme also stated that people who perceived their asthma as a chronic condition accepted the need for long-term medication and knew how to escalate their treatment dose in response to potential triggers that could result in an asthma attack.

The synthesis of this sub-theme indicated that people with asthma based their illness beliefs on their individual experience and illness representation. Those with severe asthma were more likely to believe it was a chronic illness, whereas people with mild or moderate asthma were more likely to think of it as an acute illness.

**2.10.3.3 Challenges in using medical treatment in daily life**

This sub-theme represents the experience and difficulties people with asthma faced in managing their asthma within the context of a complex daily life. Nine studies provided evidence relevant to this issue (Goeman et al., 2002; George et al., 2006; Choi et al., 2008; Poureslami et al., 2011; Pai et al., 2014; Peláez et al., 2014; Peláez et al., 2015; O’Conor et al., 2017; Alzayer et al., 2018). Participants in these studies reported various concerns that affected how they used their medication. These concerns included fearing the side effects of medication, viewing medication as not helpful or not necessary, the inconvenience of using medication, concern over the diminishing effectiveness of medication over time, and fear of addiction or dependence. Again, the participants of these studies were mostly women (68%); however, women’s specific accounts were not made clear. Patients’ concerns about asthma medications influenced their self-management decisions (Goeman et al., 2002; George et al., 2014). For instance, in George et al. (2014) study, adherence to corticosteroid inhalers was not seen as necessary by many participants to control their
asthma. In addition to their concerns about side effects, this negative perception resulted in a low rate of medication adherence and, therefore, unsuccessful asthma control. Steroid medication was linked to a fear of increased body weight, especially for the asthma patients in this study who were overweight.

A few of the participants in Alzayer et al. (2018) study, who were all women, reported not using treatment and not attending health services because their doctors continued to prescribe the same medication for them. They related the non-prescribing of new treatment to their doctor’s inability to treat their asthma. The authors reflected that some women in their study did not appear to be aware that asthma is chronic and, therefore, repeated visits to doctors were considered useless.

To what extent inhalers were seen as user-friendly was reported in two studies (Choi et al., 2008; Peláez et al., 2014). Some participants in Peláez et al. (2014) reported their dislike of powder inhalers and linked this to their difficulty in knowing whether they were using them properly. Some participants in Choi et al. (2008) study added that the feature of inhalers being bulky hindered their use.

Goeman et al. (2002) and Pai et al. (2014) discussed the cost of treatment and physician visits as one of the challenges identified in their studies. While people in Pai et al. (2014) reported the practice of sharing and borrowing asthma medications from family, friends and neighbours or buying them at a lower cost from the “street”, those in Goeman et al. (2002) tended to lower the dose or reduce the use of preventive medication. This was attributed to their desire to prolong medication use. The studies were conducted in the US and Australia, respectively. While 70% of Goeman et al. (2002) participants were employed, 76% of Pai et al. (2014) were not. Moreover, 38% of participants in Pai et al. (2014) reported they had lost their health insurance and 58% of Goeman et al. (2002) did not have a healthcare card. The studies were conducted in a context where it is important to have health insurance or to have money to purchase medication and utilise healthcare services. Unlike the status of these countries, I speculate that the cost of medication or physician visits is not an issue in Oman because healthcare services, including medication, are free (see section 1.10.3).

Three studies identified factors relating to healthcare systems (George et al., 2006; Peláez et al., 2014; Peláez et al., 2015). The first factor involves the accessibility of healthcare services, including facing delayed appointments and long waiting lists, which can complicate patients’ access to their prescriptions and follow-up. This, therefore, hindered
their medication adherence. Second was the lack of health education about their treatment and its compatibility with other medication. The third factor was related to a perception of the lack of effectiveness of the prescribed medication in treating asthma. Notably, the third factor was reported mostly by people with uncontrolled asthma. This group also reported rejecting medical advice and described more negative experiences with primary care providers.

2.10.3.4 Facilitators of asthma management

Three studies, Choi et al. (2008), Peláez et al. (2014) and Peláez et al. (2015), provided information related to this sub-theme. In Choi et al. (2008) study, the perception of the beneficial effects of medication was a facilitator for some participants. The study indicated that asthma treatments were perceived positively in permitting patients to perform activities and achieve asthma control, which helped alleviate their fear of asthma. They reported weighing the benefits and risks of their treatment, whereby they tended to perceive the beneficial effects of medication as more important than their worries about the side effects of asthma control medications. Choi et al. (2008) claimed that their data were drawn from a qualitative study about physical activity in asthma patients. However, the patients were not prompted about asthma medication. They also maintained that themes regarding medication might have become more prominent if patients were explicitly prompted on the facilitators and drawbacks of medications.

Peláez et al. (2014) and Peláez et al. (2015) specifically explored people’s perspectives on medication. Peláez et al. (2015) identified family support as a factor that facilitated the use of asthma treatment. However, this study included adolescents and parents with children with asthma, in addition to adults with asthma. Similar to Choi et al. (2008) finding, some participants in Peláez et al. (2014) study reported that having a user-friendly inhaler device was essential for them to use it due to the ease and rapidity of medication intake. Peláez et al. (2014) participants were drawn from one institution. However, Choi et al. (2008) and Peláez et al. (2015) included a diversity of participants’ ages, ethnicity, roles and HCPs. In the three studies, all the participants’ accounts were summed under one experience.

2.10.4 Experience of asthma services

Twelve studies discussed aspects of this theme. Evidence presented in the previous themes shows that patients commonly faced difficulty in accepting asthma as a chronic illness and, in many cases, refused to perceive the necessity of medical treatment. Moreover, it was
identified in section 2.10.1 that the shift from being a healthy person to someone diagnosed with asthma causes confusion and lack of clarity for some patients with asthma, which suggests the importance of HCP support. Eight studies described patients’ experiences with their general practitioners (GPs), who were viewed by most participants as playing an essential role in managing asthma (Hussein and Partridge, 2002; Douglass et al., 2004; Donald et al., 2005; Ross et al., 2010; Poureslami et al., 2011; Denford et al., 2013; Melton et al., 2014; Peláez et al., 2015). This would also very much be the case within the Omani context, in which GPs are the ones who manage asthma clinics. Notably, many doctors in Oman are male (MoH, 2016a).

However, through their experience with their GPs, the participants of the eight studies identified various drawbacks they perceived as important to consider if services were to be improved. These drawbacks included poor communication, lack of cultural sensitivity, limited involvement during the consultation, lack of access to specialist care, and the patient-physician relationship. Although all these studies included males and females, the differences between their accounts were not made clear.

Three studies evidenced the poor communication some people with asthma experience with their GP. Participants in Poureslami et al. (2011) and Peláez et al. (2015) referred to poor communication when their physicians used language in which the participants were not fluent when talking to them about their disease and medication. Both studies raised the concern of the lack of cultural sensitivity in the healthcare system, which was attributed to the lack of HCPs who were sensitive and empathetic. Authors of both studies suggested the need for patients to have an HCP who respects, listens and responds to patients’ concerns and provides sufficient and comprehensive information about asthma. Notably, the nurse’s role was absent from this account. In Poureslami et al. (2011) study, only the Punjabi patients (n=9) indicated they trusted a nurse when receiving information about asthma. Participants of the two studies were recruited via posting in communities and a free daily newsletter, respectively. The studies did not reveal any particular female concerns because neither of them discussed women’s accounts separately.

Douglass et al. (2004) identified that some of their participants linked the failure of physicians to listen and consider their patients’ understanding of their illness to their failure to prevent patients’ asthma attacks. The participants of this study, who were mostly women, critically analysed the medical care provided to them and blamed their doctors for
not being able to prevent their attacks, which led to hospitalisation. They attributed poor communication to the time constraints that mean that patients are not given adequate time to sit and discuss their concerns with their HCP. Notably, Douglass et al. (2004) explored the nature of patients’ relationship with their doctors in relation to those who presented to hospital emergency services for asthma care. Thirty participants were diagnosed with severe asthma. This could suggest that the nature of patients’ interaction with their HCP during routine medical consultation might be different.

Several studies provide evidence of the limited involvement of patients during consultation (Douglass et al., 2004; Goeman et al., 2004; Ross et al., 2010; Denford et al., 2013; Peláez et al., 2015). Participants of the studies expected their HCP to involve them actively in the discussion. For Denford et al. (2013) and Douglass et al. (2004) participants, this involvement meant asking provoking questions and signalling patient areas they felt were necessary. For Peláez et al. (2015) participants, it meant being involved in planning their management plan. In Ross et al. (2010), participants wanted to be able to express their opinion about their management strategies and to feel their concerns were being heard and taken seriously.

Several patients in these studies demonstrated that their physicians’ attitude of dismissing their illness experience during medical consultations influenced their relationship with them (Douglass et al., 2004; Goeman et al., 2004; Ross et al., 2010; Denford et al., 2013; Peláez et al., 2015). Moreover, some participants in Peláez et al. (2015) established that poor communication and lack of involvement indicated that their physicians were not sufficiently aware of their clinical history and so they doubted their treatment decisions. On the other hand, some participants in Douglass et al. (2004) and Goeman et al. (2004) reported involvement in their management plan. They linked this to their doctor’s respect for their knowledge and experience.

In Lawson et al. (2014) study, many participants demonstrated their lack of access to specialists and failure to have a medication review. Congruent with other research (Goeman et al., 2004), participants of this study linked their inability to access care and medication to financial barriers, including the cost of medication and the lack of health insurance. In Lawson et al. (2014) study, 50% of the participants were insured through Medicaid. Again, cost appears to be an important issue in the context of these studies, whereas this would not be the case in Oman where health services are free.
Most participants in Haughney et al. (2004) expressed their need for a good therapeutic relationship with their HCPs. In Melton et al. (2014) study, people with adequate health literacy skills acknowledged that maintaining a patient-physician relationship was the responsibility of both parties. However, the study only interviewed four women, of whom three were educated to high school level or above. Their age range was 57-68 years of age. However, Douglass et al. (2004) and Donald et al. (2005), Poureslami et al. (2011) identified that patients with more experience with their condition appeared to be more directive in their relationship with their doctors, which mostly limited their consultation to medication prescription. During their consultation, participants reported making inferences on the extent to which their doctors could add to their knowledge and understanding. Age, education level, disease severity and disease duration might partially explain the perception of people with asthma in this review.

2.10.4.1 Need for health education

Eight studies highlighted this sub-theme (Caress et al., 2002a; Hussein and Partridge, 2002; Raynor et al., 2004; Zayas and McLean, 2006; Ross et al., 2010; Williams et al., 2011; Melton et al., 2014; Mowrer et al., 2015), which involves the source, content and mode of the information provided. As discussed previously, asthma is a chronic illness that is characterised by intermittent symptoms and needs long-term treatment. This necessitates continual health education that is tailored to patients’ needs.

Some participants in Zayas and McLean (2006) cited their HCPs as their primary source of information. However, most reported procuring information from other sources, such as public health centres, public and college or district school libraries, neighbourhood meetings, and asthma information disseminated at community centres. Congruent with Hussein and Partridge (2002) findings, Ross et al. (2010) reported participants secured information about their disease and its management from various sources and were not purely dependent on their GP. It is expected that this would be the case in many countries with access to a wide range of media sources.

Several of the reviewed studies indicated the disparity between the information people with asthma received from their HCPs and the information they felt was vital for them to live with their asthma (Raynor et al., 2004; Ross et al., 2010; Williams et al., 2011; Melton et al., 2014). Williams et al. (2011) found clear differences in asthma goals between HCPs and people with asthma. Asthma goals set by patients were lifestyle-related. However, lifestyle goals were not prioritised by HCPs, which was linked to poor communication and
therapeutic relationships during the consultation. Caress et al. (2002a) explored the perceived information needs of people with asthma. Their findings revealed a range of concerns, including the physiological effects of asthma, medication, triggers of an asthma attack, lifestyle issues, asthma causation, effects of asthma, long-term outcomes and symptom control.

Raynor et al. (2004) reported participants receiving inadequate information about their medication, and side effects in particular, and the long-term effect of steroids. They were more concerned with understanding why they had to take long-term medication. They wanted to be involved in their management plan, as discussed in section 2.10.4. Mowrer et al. (2015) reported participants’ conflicting and confusing views in differentiating between controller and rescue inhalers. While some used only the one that seemed to work for them, others reported using them interchangeably. Many patients in this study presented a limited understanding of how to use inhalers effectively and several discovered that their techniques were wrong and that they were only receiving a portion of their inhaler dose. Moreover, most participants in Ross et al. (2010) expressed dissatisfaction with asthma information provided by their HCPs because they felt it was geared for people with a milder form of the disease. All the participants in Ross et al.’s study were diagnosed with severe asthma.

The studies reviewed also suggested a variation in how people with asthma were given information. While the participants in Raynor et al. (2004) and Ross et al. (2010) reported limited written material, Hussein and Partridge (2002) participants were only given verbal information. However, participants in Zayas and McLean (2006) reported receiving adequate verbal and written information from their GP.

Most of the studies reviewed in this section revealed that verbal means, one-to-one discussion in particular, was the most favoured mode of providing information for people with asthma. Pamphlets were viewed as inadequate, difficult to understand and not tailored to the patient’s level of asthma (Hussein and Partridge, 2002; Raynor et al., 2004; Ross et al., 2010).

Focus group discussions with people with asthma in the UK revealed that people lacked the motivation to read pamphlets (Raynor et al., 2004). Participants attributed this to their view of a pamphlet as a tool to sell a product, which caused them not to trust them. They also expressed their wish to be updated when the information in the pamphlet changed. For some participants in Ross et al. (2010) study, the written information in a pamphlet did not
seem understandable, and they recommended writing it in simple language, while in Hussein and Partridge (2002), Urdu-speaking participants wanted pamphlets in their own language. However, the studies did not highlight any difference between men’s and women’s preferences on the mode of information delivery. Written information could be composed in a standard format and not individualised by gender. There might also be gender differences in literacy in particular cultures. This is likely to be a pertinent issue in Oman. Although the illiteracy rate among female Omanis had reduced to 9.7% by 2015, there is still a proportion of women who are not able to read or who have limited literacy (NCSI, 2016).

Conversely, pamphlets were regarded as helpful by some participants in Zayas and McLean (2006). Data were generated through focus groups and town hall meetings and included adult volunteers with asthma and their carers. The younger participants in this study reported the value of using media in disseminating information and educating people about asthma. Notably, one town hall meeting included only high school students of 15-16 years of age. Similarly, participants in Hussein and Partridge (2002) perceived videos as useful.

Overall, the review identified that information regarding lifestyle adjustment was needed most and that people with asthma preferred one-to-one discussion and verbal health education over written materials. They linked their preference to the language used. In addition to people’s perception and acceptance of asthma, the review indicated that health education and the relationships people with asthma have with their HCPs are found to play an important role in their asthma self-management. Andrews et al. (2012) suggested that someone’s confidence in managing his or her chronic disease can be strengthened by the provision of the required knowledge and skills. The attitude of people with asthma towards self-management is discussed in the next section.

2.10.5 Attitude towards self-management

Twenty studies addressed the attitude of people with asthma towards their own role in asthma management (Jones et al., 2000; Paterson and Britten, 2000; Harris et al., 2001; Caress et al., 2002a; Douglass et al., 2002; Hussein and Partridge, 2002; Steven et al., 2002; Haughney et al., 2004; Goeman et al., 2007; Trochtenberg and BeLue, 2007; Cvetkovski et al., 2009; Loignon et al., 2009; Andrews et al., 2012; Oncel et al., 2012; Denford et al., 2013; George et al., 2014; Lawson et al., 2014; Mowrer et al., 2015; Roddis et al., 2016; Alzayer et al., 2018). This theme included participants’ accounts of their
understanding of self-management and its usefulness, their perception of their ability to self-manage their asthma, and barriers to and positive influences on self-management.

In Ross et al. (2010), Andrews et al. (2012), Cvetkovski et al. (2009), and Loignon et al. (2009), participants viewed their self-management role as comprising taking medication, identifying, avoiding and managing trigger factors, and avoiding attacks. However, several studies showed variation in medication adherence. Some participants suggested that taking medication meant taking it exactly as prescribed. Congruent with Jones et al. (2000), most participants in these studies described taking medication as they saw fit. This was mostly reported by patients with mild to moderate asthma, who regarded their condition as a chronic illness. This group also reported a belief in their expertise in knowing their body best and what worked for them. Moreover, some African-American people with asthma in Trochtenberg and BeLue (2007) perceived that not taking medications meant they were controlling their asthma.

In five studies, most of the participants discussed their confidence in making independent decisions about their asthma management, including medication adherence and controlling symptoms on a daily basis (Andrews et al., 2012; Goeman et al., 2007; Oncel et al., 2012; Paterson and Britten, 2000; Roddis et al., 2016). In these studies, most participants linked their perception to their experiences of living with asthma for a long time. They attributed their confidence in managing their asthma to disease duration. For instance, 48% of the participants in Oncel et al. (2012) had disease duration of ≥ 10 years, while 56% of those in Andrews et al. (2012) had been diagnosed with asthma since childhood and 39% of them had had tertiary education. Many participants did not acknowledge that their self-management was in partnership with their GP. Although they described themselves as regular visitors to their GP for symptom and medication review, they also reported being sceptical of the type of information given by their GPs, which they attributed to their belief that their doctors did not fully understand their experience. In contrast, they attributed their confidence to their belief that they knew themselves and their asthma better than their health providers. For instance, in Goeman et al. (2007) and Roddis et al. (2016), people with asthma for > 30 years linked their lower use of reliever medication to their belief that their symptoms were not “bad enough” and they resorted to past disease management practices to manage an attack. However, participants with more recent asthma were found to use their medication in response to their symptoms. Notably, asthma patients in the study by Roddis et al. (2016) were recruited by theoretical sampling. The study included patients with asthma and those with thrombophilia. The study aimed to explain how people
with long-term conditions make sense of their illness. Women’s experience does not figure in the discussion in these studies. Again, how confident women with asthma are in managing their asthma is not clear, as these studies did not make any distinction in discussing women’s experiences.

In addition to disease duration, Andrews et al. (2012) and Steven et al. (2002) identified other influences on people’s asthma self-management, which included their personal experience with healthcare services, having an asthma-friendly doctor, knowing triggers, and having a plan for dealing with escalating symptoms. However, some participants in the study by Steven et al. (2002) reported being motivated to manage their asthma because they perceived the condition as having a negative impact on their self-image and on activities they valued, while others were motivated by their desire to prevent the serious consequences of asthma.

Several studies attributed poor self-management behaviour to patients’ misunderstanding of their asthma (Harris et al., 2001; Caress et al., 2002a; Loignon et al., 2009; Denford et al., 2013). Conversely, in a study Lawson et al. (2014) conducted in the US, most of the participants viewed their asthma as severe when symptoms did not improve, despite their self-management, which urged them to attend the emergency department (ED) for help. The study highlighted that patients’ misperception or overestimation of their asthma symptom severity contradicts the content of the asthma action plan recommended by the NHLBI. The guidelines recommend that patients in such circumstances escalate their treatment and contact their outpatient providers. Despite many of the patients in this sample having a primary care physician, almost half preferred to see their outpatient physician and many cited the ED as the most appropriate site of care for their asthma. Lawson et al. (2014) indicated that some participants underestimated their asthma symptoms. This is interesting because it contrasts with the reports of the UK National Review of Asthma Death (NRAD) and other epidemiological studies that suggest the opposite. The literature indicates that there are sub-groups of people who are very poor at recognising when their symptoms become worse (Levy et al., 2014; Levy, 2014; Torjesen, 2014).

Despite the importance of an action plan for patient education and self-management recommended in various asthma guidelines, several of the reviewed studies indicated that most of their participants were not provided with a written action plan by their HCPs, and some were not even aware of the plan and its value (Douglass et al., 2002; Hussein and
Partridge, 2002; Haughney et al., 2004; Goeman et al., 2007; Mowrer et al., 2015; Alzayer et al., 2018).

Five studies addressed the opinions of participants about an action plan and its usefulness. Some participants in these studies discussed feeling uncomfortable with a guided self-management plan because it reinforced asthma as a chronic illness that needs long-term monitoring and management. Several patients in Douglass et al. (2002) and Haughney et al. (2004) did not regard an action plan as suitable for them because of a perceived lack of clarity about the diagnosis of asthma. A guided self-management plan was perceived by these participants as more useful for people with more serious asthma. Many participants reported not feeling confident in using an action plan because of their lack of awareness of their symptoms, which influenced their interpretation of the onset of their attacks and hence their ability to determine when to employ the plan.

However, an action plan was perceived as important and useful by some participants in four studies (Douglass et al., 2002; Hussein and Partridge, 2002; Goeman et al., 2007; Mowrer et al., 2015). For instance, some participants in the study by Mowrer et al. (2015) considered it the first decision point before contacting an HCP in a case of exacerbation. Most participants in Goeman et al. (2007) reported that their learning process for managing asthma had been lengthy; however, it was facilitated by their HCPs, who educated them on asthma, its management and an action plan. People with asthma based their understanding of the importance of an action plan on their perception of their asthma and on the health education they received from their HCPs. No study was found to explore the perception of Omani people of the use and importance of an asthma action plan.

No evidence was found relating to people’s perceptions of their self-managing role in asthma in Middle East countries. All the asthma management guidelines employed in the studies in this review were developed and conducted in Western settings. Thus, their transferability to Middle East countries, particularly Oman, is unclear. It is anticipated that adapting existing evidence-based guidelines may not be effective without taking Oman’s specific demographics, population and culture into consideration.

2.11 Quality of the studies included

The studies reviewed for each of the above categories were reviewed using the Hawker et al. (2002) scoring tool. This process indicated that the majority of the studies selected for
this review were rated as being of good quality, with most scoring from 28 to 36 (except for three, which were scored as being of fair quality) (see Appendix 9).

Although the scoring system is considered helpful in providing reviewers with an idea of the strengths and weaknesses of studies, I found it subjective to some extent and I had difficulty in giving a low score to studies. When I was employing this tool, some studies were assigned a lower score when their abstracts or backgrounds lacked adequate information, ethical issues were not clearly and adequately stated, data collection was not clearly described, or findings were not presented adequately. These minor issues could lead to a low score, which downgraded the studies from being of good to fair quality. Some studies were given a low score when the characteristics of the sample were inadequately described.

It is important to state that in critiquing the reviewed studies, I did not solely depend on the Hawker scoring system. I did not exclude any study by quality appraisal alone. However, this process enabled me to identify the strengths and limitations of the reviewed studies (see Appendix 5). I carried out a rigorous critique of the methodologies, methods, and presentation of the findings of the reviewed studies and considered and evaluated the key features of the various study designs. I also considered to what extent the various studies gave a rich description of the studied experience. This narrative review included studies that used different methodologies, mostly qualitative, and studied different populations.

2.11.1 Qualitative studies
The review included 42 qualitative studies. Qualitative designs are usually underpinned by the belief that knowledge is socially constructed. They aim to develop an understanding of human experiences that are not measurable and to collect data through naturalistic methods, such as unstructured or semi-structured interviews or observation. The type of qualitative design selected for a study should fit the research question (Holloway and Wheeler, 1996). Six studies employed a specific qualitative methodology: case study (n=2), constructivist grounded theory (n=1), critical theory (n=1), phenomenology (n=1), and participatory research (n=1). The remaining 36 studies used a generic qualitative design. In qualitative literature, generic research is defined as qualitative research that uses naturalistic methods not aligned with any of the three major schools within qualitative research. Seven studies specified using an exploratory research design, three described a descriptive design, and the remaining generic studies (n=29) did not specify the type of qualitative design used (see Appendix 6).
All the studies presented clear aims, which included exploring how people live and deal with their asthma, investigating the social influences on people’s understanding and management of their asthma, and exploring participants’ choice of treatment and health services. Qualitative methodologies are appropriate for researching these aims.

Of the 42 qualitative studies, only 13 clearly stated the exact type of their design. It was expected that the concepts could be studied using various research designs and some could not fit neatly into one specific design. However, researchers need to reflect sufficiently on why such concepts are not considered or will not fit a particular design. This would indicate rigorous thinking on the part of the researcher in planning and designing the study and increase the authenticity of the findings generated. It was observed that some study aims could have been better examined using specific qualitative designs. For example, in one study to explore how mothers with asthma manage their illness (van Mens-Verhulst et al., 2004), it is evident that the mothers’ experiences could have been investigated using a grounded theory approach, as the research aimed to understand the experience and perspective of mothers in managing their asthma within their particular circumstances. The authors selected a data collection method (semi-structured interviews) without reflecting on the methodological orientation that informed their decisions. It was also observed that some aims could have been better investigated with different methods. For example, phenomenology was used to examine the perceptions of people with asthma of their disease. In one study (Oncel et al., 2012), although phenomenology might have been appropriate, letters, which were the only means of data collection, did not facilitate prompting the participants on specific topics about their perceptions. This suggests that the researchers included only patients who were able to write a letter, which calls into question the transferability of the study findings. Without prompting or undergoing a conversation-type interview, the authors’ interpretation could not convey an in-depth description of the studied experience. It is possible that the authors have an explanation for this. However, the absence of their reflection challenges assessment of the credibility of the study findings.

Data collection approaches and sampling techniques could also affect the credibility of qualitative studies (Caelli et al., 2003). One of the issues noticed in the studies reviewed was the varying number of participants. The sample size in the reviewed studies ranged from 4 to 200 participants. Mowrer et al. (2015) conducted a qualitative study which included 200 participants in various categories. They conducted 26 focus groups in 15 different practice settings in rounds every six months over three years. However, the
demographic characteristics of the participants were not captured. The authors did not report clearly how the themes emerged or how they analysed the data from this large number of participants. It is, therefore, difficult to evaluate the trustworthiness of the results.

Of the total number of qualitative studies reviewed (n=42), five had fewer than 10 participants. For instance, Donald et al. (2005) had a sample size of only five. Although a small sample size is reasonable in qualitative studies, the authors did not indicate whether adequate data were generated from this sample. The data were generated through focus group discussion which was only done once, and no data were presented on how the focus group discussion was conducted. Considering the small sample size and limited presentation of relevant information, one might question whether the participants’ experience was explored in adequate depth.

Six of the qualitative studies reviewed used convenience sampling. However, I believed the use of convenience sampling was inappropriate in some instances. Lawson et al. (2014) explored the reasons for adult asthma patients attending asthma-related emergency department utilisation. In this case, convenience sampling was a good means of providing preliminary data on why patients with asthma attend emergency services. However, their convenience sampling included only patients under the age of 65 from one urban ED. It is possible that people in other age groups or geographical areas have different reasons for approaching an ED. This type of sampling is criticised for not allowing the maximum possible variation of participants (Etikan et al., 2016). However, most of these studies recruited a large number of participants for a qualitative study, which facilitated variation in participants’ characteristics. For instance, the sample sizes in Choi et al. (2008) and Mancuso et al. (2006) were 52 and 60, respectively. Reviewing their participants’ characteristics, the studies achieved a considerable variation in terms of age, gender, ethnicity, and asthma severity. On the other hand, Melton et al. (2014) study only had four women, which casts doubt on the variation within their sample. However, this study used an interpretive phenomenological analysis approach and a small sample size is considered appropriate for this approach as it focuses on the in-depth understanding of a particular group, rather than on generalisation (Smith, 2015).

Data triangulation was maintained in several studies by using a heterogeneous group of participants, such as people with asthma, HCPs (nurses, pharmacists and GPs) and family members. Overall, the studies were of average standard in reporting details about their
recruitment processes and the characteristics of their population. However, more information was needed to satisfy the transferability criteria. Mays and Pope (2000) suggested that methodological triangulation ensures the comprehensiveness of collected data by taking several perspectives of the studied phenomenon.

Although the idea of saturation was introduced with grounded theory, it has been applied to other qualitative methodologies (Caelli et al., 2003). Several generic studies in this review reported that saturation was achieved; however, the authors did not describe what saturation meant within their studies and how it was achieved.

Nineteen studies borrowed methods from and, in some cases, selected specific components of an established approach. Borrowing a component(s) of established approaches in planning generic research may indicate the researcher’s loyalty to a particular methodological assumption (Caelli et al., 2003). For instance, several studies borrowed grounded theory analysis principles in interpreting their data (George et al., 2006; Tumiel-Berhalter and Zayas, 2006; Cvetkovski et al., 2009; Lawson et al., 2014). However, the application of grounded theory analysis and modified grounded theory analysis techniques was not always made clear. The version of grounded theory used was not specified. More importantly, when the authors claimed to apply constant comparison, theoretical sampling and theoretical saturation, their actual application was not made explicit in the study presentation.

With respect to the subjective nature of qualitative research, perhaps the limitations identified in the studies are justified. However, it is expected that researchers rationalise the use of their methodologies and reflect on how they applied them. In several cases, the studies reviewed did not present adequate information on what informed their method selection or how their chosen methods were applied. Moreover, reflexivity was also absent in several studies. Reflexivity is vital in assessing a researcher’s bias and the influence of the environment on data collection. The absence of reflexivity and the lack of required information made it difficult to assess the trustworthiness of the findings of most of the qualitative studies reviewed (Douglass et al., 2002; Goeman et al., 2002; Ross et al., 2010; Mowrer et al., 2015; O’Conor et al., 2017; Alzayer et al., 2018).

2.11.2 Mixed methods

Of the 45 studies reviewed, three used mixed methods designs (had qualitative and quantitative arms) and these were conducted in different countries (the US, UK and Australia). A mixed methods strategy combines two paradigms of research - qualitative
and quantitative - in examining a phenomenon (Creswell, 2014). Mixed methods allow the measuring of experience and give meaning to that experience by understanding the motivations, reasons and opinions of those who are living it (Creswell, 2014). Exploring people’s experience with asthma through the use of mixed methods might enhance understanding of this phenomenon and provide measurement of several parameters, such as behaviours, attitudes and practices. The studies explored participants’ perspectives of asthma and its management and its relationship to the barriers that prevent optimal asthma care (Goeman et al., 2007), factors within neighbourhoods that affect asthma control (Keddem et al., 2015), and patients’ preferences regarding the delivery of asthma care and treatment (Haughney et al., 2004). All three studies presented information on how each aspect of the studies was explored. For instance, in Keddem et al. (2015), interviews elicited the participants’ perspectives of how neighbourhood-level factors affected the control of their asthma. Participants’ neighbourhood characteristics were collected from an administrative census and survey data. However, the methodologies of both the qualitative and quantitative arms of the three studies were not indicated. Two gave adequate information on how the quantitative and qualitative sampling was drawn. However, in Haughney et al. (2004), the recruitment strategy of the qualitative sample was not discussed. The three studies only included people with asthma and all used semi-structured interviewing in their qualitative arm, but one also used the projective technique of free listing (Keddem et al., 2015). Free listing is a technique used in semi-structured interviews whereby the researcher asks each participant to list all the terms he or she uses to describe a specific construct. With regard to the quantitative arm, Goeman et al. (2007) and Keddem et al. (2015) used a small sample size, which makes it difficult to generalise their quantitative findings to the population from which their sample was drawn.

All three studies provided separate analyses of their quantitative and qualitative data, which allows the reviewer to understand which data came from which design. Moreover, the results were presented for both methods. An explanation was also provided on how the findings from both methods were synthesised. In two of the studies, the qualitative phase informed the quantitative phase. In Haughney et al. (2004), the quantitative questionnaire was based on the themes that emerged from the qualitative data. The data analysis was adequately discussed in all three studies and their findings were explained. The presentation of the studies’ components ensured the trustworthiness of the qualitative studies, which is an indication of their value in informing practice among the population from which they drew their samples. All the studies had good and fair elements. Assessing these studies against Hawker’s critical appraisal tool criteria indicated that the three studies
were ‘good’, suggesting that the studies presented adequate information on their methodological components. Overall, the mixed methods studies included in this review were found to be robust.

2.12 Overall weight of evidence

The overall rigour of the studies included in the review was fair. It is unclear whether apparent weaknesses in the studies reflected methodological shortcomings or poorly written studies. Without evidence of reflexivity and the required information, the trustworthiness of the studies’ findings is difficult to assess. Most of the studies assessed the perspective of people with asthma as the main concept in combination with other factors. Some of the studies investigated other concepts, such as quality of life, which are not relevant to the aim of this study. This review aimed to investigate the existing evidence on women’s experience of living with asthma. Understanding people’s experiences requires using natural means of communication, such as face-to-face in-depth interviews. Qualitative exploratory research is considered the most appropriate to understanding people’s perspectives. Some of the reviewed studies lacked methodological clarity. This lack of transparency made it difficult for the reviewer to make an informed decision regarding the quality of the studies and the rigour of their findings. Several studies did not specify their qualitative design and 17 did not adequately describe their sampling techniques. Several studies did not report their analysis process. Information regarding obtaining ethical approval was also not made clear in a few studies. No study scored as being of poor quality. Overall, most of the studies presented findings that aligned with their aims. The lack of methodological clarity in some studies was reflected in their discussion section. In some cases, it was not clear whether all the results represented the views of the participants on their asthma experience.

None of the studies presented the researchers’ reflection on their relationship with their participants, whether that relationship was affected and how this was addressed. In qualitative research, reflexivity is crucial in assessing the researcher’s and participants’ influence on a study. More than half the studies used semi-structured interviews as a single data collection method, while 12 used focus groups. Triangulation was used in several qualitative studies and all the mixed methods studies. Several generic qualitative studies reported using thematic analysis; however, the process was sparsely explained. Other generic qualitative studies indicated adopting grounded theory analysis (George et al., 2014; Lawson et al., 2014), although which principle they adopted was not made clear. In
the absence of methodological clarity, evaluating the rigour of generic qualitative research is sometimes difficult (Caelli et al., 2003).

2.13 Research gap identified

The main aim of the review was to identify studies that explored the experience of adult women living with asthma. However, evidence regarding women’s subjective experience with asthma was limited in the existing studies. Although most of the studies included more than one gender, none of them distinguished between men’s and women’s experiences. Only three studies consisted of female participants alone. The rest did not explicitly consider women’s lives, how their asthma might affect their lives, and how their specific experience as women might affect coping with and managing their asthma as a long-term illness. None of the studies addressed the issue of whether the experience of women living with asthma might be different from that of men. More specifically, in the Gulf region, women’s experience of asthma in this specific social, cultural and religious context has not been explored.

2.14 Summary

The review highlighted the way in which participants’ acceptance of their asthma as a chronic illness influenced their day-to-day living with the condition. The synthesis indicated that people with asthma based their illness beliefs on their individual experience and illness representation. Those with severe asthma were more likely to believe it was a chronic illness, whereas people with mild or moderate asthma were more likely to think of it as a recurrent acute illness.

The review of literature also established that asthma symptoms cause physical limitations in carrying out activities of daily living. Three studies mentioned the effect of asthma on the family (Goeman et al., 2002; van Mens-Verhulst et al., 2004; Al-kalemji et al., 2014). The effect of asthma on employment was mainly related to the impact of the physical symptoms. Several studies highlighted the experience of emotional distress; most common were feelings of anxiety, and hatred of the illness because of the uncertainty it created and its impact on daily activities. Only four studies highlighted the effect of asthma on self-concept and self-worth and only one of these included women. However, only the women in the van Mens-Verhulst et al. (2004) study related their sense of self-worth to the impact of asthma on their family and their responsibilities towards their family members. The other two studies did not present any explicit discussion of the specific experiences of
women with asthma. Feelings of guilt were identified in one study and were also related to mothers’ inability to carry out their duties as mothers and their feelings about missing opportunities with their children. This particular women’s issue was not discussed by most authors and experiences specific to women were rarely mentioned in the literature reviewed here.

People with asthma reported going through several adjustments to their lives to manage their illness. Strategies included accepting asthma or avoidance of asthma. Mothers in the van Mens-Verhulst et al. (2004) study identified the importance of social support to help them to live day to day with their asthma. Despite its small sample size, the study is an exceptional one in this review, as it specifically considers women’s perspectives in more detail. The women stressed that the attitude of family members, friends and neighbours was important in living with asthma. As there is no explicit discussion of differences between men’s and women’s experiences in this review, whether such experiences are unique to women is difficult to establish.

The synthesis established that people with asthma presented three distinct behaviour patterns in respect of their medical treatment. These behaviour patterns were firstly taking medication exactly as prescribed, secondly adhering to only some components of asthma treatment (e.g., avoiding environmental triggers, rather than using medication), and thirdly being actively involved in treatment whereby they adjusted treatment in response to specific needs. The review indicated various concerns and beliefs that affected how people with asthma used their medication. These included fearing the side effects of medication; viewing medication as not helpful or not necessary; disliking the inconvenience of using medication; fearing the diminishing effectiveness of medication over time, and fear of addiction or dependence. On the other side, experiencing the beneficial effects of medication and family support were considered to facilitate the use of the treatment.

Through their experience with services, the participants of this review identified various deficiencies in care which needed to be addressed if services were to be improved. These included poor communication; lack of cultural sensitivity; limited involvement during the consultation; lack of access to specialist care, and problems in the patient-physician relationship. Although all these studies included males and females, the differences between their accounts were not made clear so it is difficult to isolate the specific experiences of women with asthma.
The review also identified that information regarding lifestyle adjustment was the most important perceived need and that people with asthma preferred one-to-one discussion and verbal health education over written materials. They linked their preference to the style of language used. In addition to people’s perception and acceptance of asthma, the review indicated that health education and the relationships people with asthma have with their HCPs play an important role in their asthma self-management.

No evidence was found relating to people’s perceptions of their self-managing role in asthma in Middle East countries. All the asthma management guidelines employed in the studies in this review were developed and conducted in Western settings. Thus, their transferability to Middle East countries, particularly Oman, is unclear. It is anticipated that adapting existing evidence-based guidelines may not be effective without taking Oman’s specific demographics, population and culture into consideration.

The literature review provided insight into the global experience of adults living with asthma. However, the evidence available in this review did not seem adequate to understand women’s unique experience, as the discussion of women’s experiences was very limited.

Furthermore, this evidence might also be inadequate to inform practice in Middle Eastern countries, as there was no study of asthma experience in these particular countries. I can thus conclude that the available evidence might not apply to Omani culture.

There is thus a dearth of evidence regarding women’s particular experience of asthma in Middle Eastern countries and in Oman specifically. Given the current growth in the incidence of asthma in Middle Eastern countries, including Oman, it is important to address this gap in current knowledge.

To understand the experience of Omani women living with asthma, I needed to select a methodology that would enable me to explore that experience and permit the data generated during the interviews to flow naturally and ordinarily. The lack of knowledge of the research topic in relation to this particular group of women within the Omani context suggested the need for broad research aims which would enhance understanding of adult Omani women’s experience of living with asthma.
The review of the literature was an ongoing process as the research progressed. Several studies (45) were included in this review. Further relevant studies were guided by the findings and used in dialogue with the discussion. The next chapter presents the methods utilised in conducted this research.
CHAPTER THREE
RESEARCH METHODOLOGY
AND METHODS
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3.1 Introduction
The chapter starts by explaining the philosophical underpinning of the study and the rationale for the chosen approach. It also details how constructivist grounded theory was employed to understand the experience of adult Omani women living with asthma.

3.2 Research aim
The study was conducted to capture the experience of adult Omani women living with asthma.

3.3 Research questions
1. How do Omani women describe their experience of living with asthma?
2. What do Omani women know about asthma and its management?
3. What strategies do Omani women use to incorporate asthma into their lives?
4. What is the experience of Omani women of the treatment and services provided?
5. What are the views of Omani women regarding the self-management of care?

3.4 Qualitative approach
The qualitative approach has a long history in social science and its usefulness in studying healthcare issues has been acknowledged (Murphy et al., 1998; Pope and Mays, 2006). The current research considers how women live with the experience of asthma and manage their illness within the Omani social context. It attempts to understand the complexity of the women’s experience of living with asthma as well as their treatment decision making and needs. Qualitative research was used to make sense of the women’s beliefs and behaviours while living with asthma by examining the details of their lives and following techniques that are flexible and sensitive to their social context. Qualitative data provide rich, well-grounded descriptions that facilitate the in-depth understanding of individuals’ experiences, as well as the context in which their experiences occur (LoBiondo-Wood and Haber, 2014). Exploratory qualitative research is appropriate when the research interest is to explore and understand the context in which a specific issue occurs. It also empowers participants to provide stories about their experiences in their own language (Creswell, 2007). It uses oral communication in sharing ideas, interaction and engagement with
participants. Thus, a qualitative approach was seen as the most appropriate to this research as it would fit the research aim.

It is important for researchers to define the assumptions and theoretical perspective that underpin their research because these contextualise the research and shape how it is to be approached and conducted (Crotty, 1998).

### 3.5 Underpinning assumptions

Presenting the epistemological and ontological stances of a research work is important, as they determine the way researchers view the world and form perspectives and understanding (Guba and Lincoln, 1994). They also influence the criteria for rigour and the claims made about knowledge. Ontology, epistemology and methodology are the three basic elements that make up a theoretical perspective. The first two elements describe how researchers view the world: the nature of reality and the relationship between the researchers and what they want to know or what can be known. Consequently, this determines what methodology researchers use to answer their inquiries and discover realities (Guba and Lincoln, 1994; Annells, 1996; Weaver and Olson, 2006; Houghton et al., 2012).

This study aimed to elicit women’s perspectives, views, and experiences and describe and discuss them in an interpretive account (Lincoln and Guba, 1985; Charmaz, 2006). Therefore, the study was grounded broadly in the interpretivist tradition, as it aimed to focus on how women’s social worlds are “interpreted, understood, experienced, produced or constituted.” (Mason, 2002, p.3).

From an ontological perspective, I believe that individuals view their world and perceive the meaning of its reality based on their backgrounds and cultural contexts (Mills et al., 2006). Those of us from a nursing background are continuously looking for meaning and an interpretation of individuals’ behaviours and experiences (Mills et al., 2006). We, as nursing professionals, should view human beings holistically, placing each in a strong position to interpret his or her own experiences and provide meaning for them (Munhall, 1989). This study acknowledges that we understand the world through our social interaction and our interpretation of the world. It considers the possibility of multiple realities rather than an existing truth (Guba, 1990). It recognises that reality is based on people’s perceptions as the basis for their action. It also acknowledges that reality is
socially constructed through continuous refining and comparison between and among research participants and the researcher based on their experience (Weber, 2004).

From an epistemological perspective, the study took a constructionist position. I consider that social reality (knowledge) is socially constructed and situated through the actions and interactions of both the researcher and the social actors (Hammersley, 1989; Schwandt, 1997) and the meaning of that reality is created while people engage with the world they are interpreting (Crotty, 1998). In this study, the knowledge gained included women’s experience, their society and culture, as well as the researcher’s knowledge and experience. Within interpretivism, knowledge is about understanding how people interpret and make meaning of their lives. The interpretivist paradigm was found to be appropriate for the research as this paradigm acknowledges a relativistic ontological stance and respects the idea that knowledge is socially constructed. The ontological perspective of this study is concerned with the world of meaning and the interpretations of individuals. These perspectives guided the choice of symbolic interactionism to underpin the study. Crotty (1998) defined a theoretical perspective as “the philosophical stance informing the methodology and thus providing a context for the process and grounding its logic and criteria” (p. 3). Crotty’s perspective is consistent with the study’s assumption, as discussed above.

3.6 Theoretical perspective: symbolic interactionism

Symbolic interactionism is a theoretical perspective that has developed from the symbolic interactionist stance of Mead (Hammersley, 1989). Mead proposed that the self, the act and social interaction comprise the human being. The principle of Self indicates that the individual is self-capable of thinking, acting and responding towards self and others after interpreting the actions and intent of those others. Through exceptions to their habitual and reflexive activities, human beings build their acts during their performance process (The Act). The Act consists of the implicit and explicit behaviour of individuals, including, but not limited to, their perception, imagination, interpretation, feelings and reasoning. The process of self-interpretation takes place within a social context in which individuals or social actors interpret matters within a context (Mead, 1934). Box 3.1 describes the Blumer’s core principles of symbolic interactionism.
Box 3.1: Core principles of symbolic interactionism

The three key ideas of symbolic interactionism developed by Mead and extended by Blumer fit the current research. The first feature is that adult women with asthma act in a specific way towards their experience based on what that experience means to them. Second, women’s interpretation and comprehension of their experience result from their social interaction within particular social contexts; for example, within their families, communities, workplaces and healthcare institutions. They deal with their asthma illness by creating socially constructed meaning within these contexts (Blumer, 1969). I intended to understand the experience of Omani women living with asthma. I wanted to understand how they actively engaged in their social world and accomplished their activities, roles and responsibilities while dealing with this chronic illness. To comprehend the women’s experience, an active and interactive relationship with the participants was practised and maintained throughout intensive interviews. This relationship permitted the researcher to understand the various dimensions and meanings of the women’s experience with this chronic illness.

On reviewing the literature, it was apparent that the perceptions of illness of women in the Gulf region within their social, cultural and religious contexts had not been fully explored. Most of the literature on asthma in Oman and the Gulf countries relates to children and adolescents, with prevalence and symptoms as the main focus. A few studies have focused on asthma control and cost and documenting the management of asthma exacerbation (Al-Rawas et al., 2009b; Al-Busaidi and Soriano, 2011; Al-Busaidi et al., 2013).

In qualitative research, symbolic interactionism is commonly associated with grounded theory (Glaser and Strauss, 1967). This combination is used to study both individual and
social interaction (Gray, 2013). Individuals’ behaviour is described by their definitions of their situation and their interaction with their understanding of that situation. This perspective underpins qualitative grounded theory research and informed the methodology of the current study (Smith, 2015).

### 3.7 Social constructionism

Crotty (1998) affirmed that “symbolic interactionism is all about those basic social interactions whereby we enter into the perceptions, attitudes and values of a community, becoming persons in the process”. Knowledge is not discovered but socially constructed (Crotty, 1998). As shown in Box 3.2, social constructionism is an approach that involves one or more of the following fundamental assumptions (Burr and Dick, 2017).

- It deals with the way we view the taken for granted reality in understanding ourselves and our world. This approach acknowledges the critical evaluation of understanding- how do we make and understand our knowledge about ourselves and the overall world. This critical relativist stance is opposed the epistemological position of positivism.
- It argues that people’s ways of understanding their world and the concepts or the terms they used are all based on their cultures and backgrounds. Their understanding is the product of history and culture which is influenced by the social and the economic factors within a period. In other words, it depends on where they lived and when they lived.
- It is that knowledge is the product of a social process where people continuously interact and engage with each other in their social life. Power relations control our understanding of the world regarding its implication of what is acceptable for others and how we should deal with them (Burr and Dick, 2017). Through its perspective of knowledge, social constructionism has contributed in transforming the grounded theory (Bryant and Charmaz, 2007).

**Box 3.2: Social constructionism**

In addition to the theoretical perspective that underpins the research; grounded theory is considered to have informed the methodology of the current study. Grounded theory principles regarding collecting and analysing data are in line with the aim and underpinning assumptions of the study.
3.8 Methodology of grounded theory

Grounded theory, which has roots in symbolic interactionism, was developed by two symbolic interactionist sociologists: Barney Glaser and Anselm Strauss (Glaser and Strauss, 1967). They developed grounded theory as an inductive method for studying social processes (Glaser, 1965). Their version of grounded theory offered researchers key strategies to guide them throughout a research process. These strategies include theoretical sampling, theoretical sensitivity, constant comparisons during the coding process, and memo writing. Glaser argued that grounded theory moves from an inductive to a deductive phase, which allows researchers to initiate their inquiry into an area and permits the emergence of theory (Glaser, 2016). It is the use of constant comparative analysis that enables this to happen (Glaser, 1965). It is never the attempt of grounded theory to test a theory or to verify whether a specific theory might fit a particular experience (Charmaz, 2014; Corbin and Strauss, 2015; Glaser, 2016). It does not start with a hypothesis, but develops a theory or key categories through a systematic process of data generation (Glaser, 1978). This methodology has been used widely in healthcare research (Corbin, 1998) and has been particularly popular in nursing (Tan, 2010). Moreover, it has been used widely in studying the experiences of people with chronic illness (Charmaz, 1990).

Both grounded theory and phenomenology facilitate the production of the thick description of individuals’ experiences within their natural setting (Geertz, 1994). However, unlike phenomenology, the essence of grounded theory is not to describe a phenomenon, but to understand, analyse and explain it (Creswell, 2007). Phenomenology is aimed at understanding social reality from the perspective of the people who lived it, without any alteration by the researcher’s understanding or preconceptions (Gray, 2013). The aim of the current study went beyond the question of “What is it like to be a woman with asthma?” Rather than describing the lived experience of the women, this research was concerned with explicating women’s day-to-day life with asthma, how they see themselves from the perspective of others, and how they adapt their behaviours to their social situation (Speziale et al., 2011). Ethnography is also an inductive approach which aims to present an account of the unique cultural characteristics of a particular society (Hammersley, 1983). Overall, all three methodologies are grounded in description and interpretation (Gray, 2013). While phenomenology focuses more on subjective human experience, ethnography focuses on culture (Gray, 2013). I believe that an ethnographic stance would not have been suitable for searching for the experience of Omani women living with asthma. It is not the intention of this research to study the cultural understanding of asthma or to understand the
subjective meaning of individual experience, but to explicate the social process of living with asthma as a woman in Oman.

Therefore, I chose grounded theory as a methodology for the current research. It was then essential to appreciate the differences between various versions of this theory, especially between the classic version (Glaser and Strauss, 1967) and a later one that remodelled grounded theory from the constructionist perspective, in order to choose the approach most suitable to my research aims (Andrews, 2012).

### 3.8.1 Three versions of grounded theory

Since its first version, grounded theory has undergone various developments over the past 20 years (Corbin and Strauss, 1990; Glaser, 1992). Grounded theory has been described as being ‘discovered’ (Glaser and Strauss, 1967), ‘generated’ (Corbin and Strauss, 1990), or ‘constructed’ (Charmaz, 2014) from data. Both founders of grounded theory believed that reality (knowledge) is discovered or generated from the interpretation of the data (Glaser and Strauss, 1967). After its development, the two originators of grounded theory had different perspectives, which were known as Glaserian and Straussian grounded theory (Corbin and Strauss, 1990; Glaser, 1992). Box 3.3 discusses the differences between the Glaserian and Straussian versions of grounded theory.
<table>
<thead>
<tr>
<th>Glaserian</th>
<th>Straussian</th>
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<tr>
<td>• Remained faithful to classical grounded theory which argued against any contribution of the researcher on the participants.</td>
<td>• Views the researcher as an ‘active agent’ who interacts and actively engages with social context.</td>
</tr>
<tr>
<td>• Remained faithful to the data analysis (coding) strategy of the original grounded theory which included the substantial and the theoretical coding. Such coding is thought to help to move the level of the analysis from its empirical level to the analytical interpretation (Glaser, 1992).</td>
<td>• Argued that the subjective meaning of social process emerge through interaction (Corbin and Strauss, 1990).</td>
</tr>
<tr>
<td>• Glaser accused Strauss and Corbin of developing a method of data analysis which was too rigid (Glaser, 1992).</td>
<td>• Straussian assumptions reflect the perspective of symbolic interactionism which argues against the separation of the reality, self and society. In the symbolic interactionist perspective, these three are constructed through communication and interaction (Charmaz, 2014).</td>
</tr>
<tr>
<td>• Corbin and Strauss (1990) responded that their explicit techniques were not a mandatory but a suggestion.</td>
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**Box 3.3: Differences between the Glaserian and Straussian versions of grounded theory**

Constructivist grounded theory was developed more recently by Kathy Charmaz. This theory claims that knowledge (reality) is socially constructed, so shares the active view of the researcher (Charmaz, 2014). Charmaz argued against a disconnection between the researcher and the study context. She acknowledged researchers’ interaction and involvement with their participants, as well as their role in generating data (Bryant and Charmaz, 2007). Moreover, she recognised the important role of the past and present experiences of the researcher in constructing a theory (Charmaz, 2014). She emphasised that the researcher should be self-aware and reflective of his or her assumptions. She
argued that when researchers are not aware of their positions, they tend to see theirs as the only view. By doing so, she maintained, they implicitly forced their data without being aware of it (Charmaz, 2006). However, constructivism had been criticised by Glaser, who argued that it is not a type of grounded theory. This view comes from his perspective that knowledge should be discovered only by the participants, without any influence from the researcher (Glaser, 2002). He also argued against reconstructing findings based on researchers’ theoretical knowledge, as this would not interpret the true reality of the data, and so the truth would not be discovered. He argued that constructivism could bring biases to data (Glaser, 2002). However, Charmaz suggested that such potential bias may be overcome by the application of various techniques, such as memoing and keeping reflective diaries (Charmaz, 2014).

### 3.9 Selecting constructivist grounded theory

This study aimed to explore and explain how women make sense of a potentially life-threatening condition: asthma. Adopting constructivist grounded theory enables the generation of a theory or key concept about how women make sense of their asthma, while acknowledging the social context in which that experience is situated. Thus, it allows the researcher to interpret and construct the social world of Omani women with asthma (Charmaz, 2014).

Constructivist grounded theory involves exploring, understanding and explaining the real experiences and needs of participants within their social contexts (Hunter et al., 2011; Starks and Trinidad, 2007). The flexible structure of constructivist grounded theory permits the exploration of the experiences of, in this case, women and their hidden perceptions, values and beliefs (Creswell, 2007). This methodology allows the inductive construction of theories and concepts to explain women’s experience (Charmaz, 2014).

All the published studies come from outside the Gulf region, where there are different cultures, religions and healthcare systems. This was, therefore, expected to affect the transferability of those studies’ findings to women’s experience in the Gulf region.

In addition to its consideration of process and action, the constructivist approach considers the participants’ and the researcher’s conceptual understanding, perspectives, priorities and interaction (Bryant and Charmaz, 2007). Given the preceding discussion, I chose to employ a constructivist grounded theory methodology underpinned by social constructionism, namely, that of Charmaz (2014).
In the following section, I describe the ethical issues and sampling decisions I considered, as well as how I gained access to the study participants and the recruitment process. I also provide a detailed account of how I applied the principal characteristics of constructivist grounded theory, including contemporaneous data collection and analysis, the conception of the analytic codes and categories, the constant comparison process, and memo writing (Charmaz, 2006).

3.10 Gaining access to the research settings and recruitment

I conducted the study in three healthcare settings: two polyclinics, which offer primary health care (polyclinics 1 and 2), and one tertiary hospital (see Figure 3.1). Appendix 10 provides a detailed description of the three instutions. Recruiting from three health institutions facilitated the employment of purposive sampling regarding the severity of illness and socioeconomic backgrounds of the research participants (Garg et al., 2005), in order to enrich the research data and thus the constructed theory. The primary healthcare setting is an example of a typical polyclinic in Oman which provides primary healthcare services. Similar to other polyclinics in the country, they also include some outpatient clinics in different specialities, one of which is the asthma clinic. Polyclinics have inpatient services. The tertiary hospital provides care to everyone who works in it and in the university connected to it, as well as their families, regardless of where they live. Asthma patients treated in this hospital come from all over the country. It also provides specialised tertiary referral services to the wider population from the whole of Oman and allows access to a population with more severe disease.

After obtaining study approval, I contacted the managers of polyclinic 1 and polyclinic 2, arranged an initial appointment, and then visited them. I met the doctor in charge of the polyclinic 1 asthma clinic, who is a senior specialist in family medicine. She welcomed and orientated me to the asthma clinic and its staff. She informed me of the staffing, working times, types of patients, and the services provided in the asthma clinic. I discussed the proposed study protocol with her, as well as the asthma management guidelines followed by all the healthcare institutions in Oman. I followed the same process in relation to polyclinic 2.

The tertiary hospital requires researchers to have a supervisor from the hospital as a condition of ethical approval. The role of the supervisor is to facilitate the recruitment and data collection processes. I discussed my study with one of the senior consultants in the respiratory clinic, who agreed to be my supervisor during the data collection. He is a
member of the Oman Respiratory Society, which prepared the Omani Asthma Management Guidelines and provides training workshops on asthma and its management for GPs in the government health centres and polyclinics. By discussing the study with the managers of polyclinics and my supervisor in the hospital, I hoped to engage their enthusiasm and passion for the study to gain their help in recruiting participants and facilitating data collection; that indeed happened.

I provided the doctors in charge of the three settings with a copy of the approval letters and a brief description of the study. For the sake of brevity, unless otherwise stated, the three settings will be referred to as the study setting. The doctors and the nursing staff in the asthma clinics in the three settings helped in identifying eligible participants for the study. I discussed the inclusion and exclusion criteria for eligible participants thoroughly with the medical and nursing staff in the asthma clinics. When recruiting participants from the three study sites, I asked asthma clinic staff to identify eligible patients from the computer records. I considered all the women with asthma who met the inclusion criteria. Tables 3.1 and 3.2 below provide the inclusion and exclusion criteria applied and their relevance to the current study.

3.11 Sampling

In qualitative studies, the sampling must reflect the studied phenomenon. The study’s aim guided definition of the participants’ selection criteria (Coyne, 1997; Guest et al., 2006). The study aimed to gain a comprehensive description of women’s experience of living with asthma and the trajectory of that experience. Grounded theory necessitates including participants who can provide a rich explanation of the studied phenomenon (Glaser and Strauss, 1967). Therefore, it was important to use an appropriate sampling method (Bryant and Charmaz, 2007).

Sampling in grounded theory involves purposive sampling, of individuals that represent varied characteristics, and theoretical sampling, which facilitates the development of theory or key concepts to explain the studied phenomenon (Glaser and Strauss, 1967). Eligibility criteria provide the maximum variation regarding, in this case, age, health education, years of experience, and geographical area.
Table 3.1: Participants’ inclusion criteria

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Justification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adult Omani women with a confirmed diagnosis of mild to severe bronchial asthma.</td>
<td>As far as the researcher is aware, this is the first study on patients’ experience of living with asthma. Focusing the study on Omani women was intended to provide a comparison basis for later studies on other groups of participants of different gender, nationality and ethnicity. Only 17% of immigrants are female. Immigrants have different nationalities and languages.</td>
</tr>
<tr>
<td>Diagnosed with asthma for one or more years.</td>
<td>Health and health provision experience was expected to be different due to health insurance issues. Health services for Omanis are free. Inviting participants who were well-informed about the studied experience would increase the researcher’s understanding of the experience studied (Bryant and Charnaz, 2007; Coyne, 1997).</td>
</tr>
<tr>
<td>≥ 18 years of age.</td>
<td>According to the law and regulations in Oman, individuals are considered adults when they reach the age of 18. Those &lt; 18 years of age are considered children (Ministry of Legal Affairs, 2013).</td>
</tr>
</tbody>
</table>
The study incorporated both purposive and theoretical sampling techniques.

### 3.11.1 Purposive sampling

The study began by using purposive sampling, identifying those with a variety of characteristics and background experiences. I purposefully selected women of various ages, education and asthma severity levels to ensure a wide range of responses regarding the experience of interest, i.e., living with asthma (George et al., 2014). This process also helped me to understand the experience under study (Creswell, 2014). I purposefully selected the first three participants based on their experience to ensure generating rich data that would be relevant to the study aim. The initial three interviews helped to start the study and further develop the interview guide. They also helped in improving my skill and confidence in interviewing.

When an eligible participant was found, a doctor briefly discussed the idea of participation in the study with the woman and, if she expressed an interest, the doctor introduced me to her. I then asked the woman if I could spend a few minutes talking to her about my study after finishing with the doctor. I was concerned that women might feel coerced by their doctor to participate in the study. My main intention was to emphasise the women’s freedom to accept or reject participation in the research.

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**Table 3.2: Participants’ exclusion criteria**

<table>
<thead>
<tr>
<th>Exclusion criteria</th>
<th>Justification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Could not speak Arabic or English:</td>
<td>The participants needed to be able to converse with the researcher about their experiences.</td>
</tr>
<tr>
<td>Had other chronic respiratory diseases or other comorbidities:</td>
<td>The focus of this study was on participants’ experience with asthma only.</td>
</tr>
<tr>
<td>Were unable to provide fully informed consent,</td>
<td>In order to protect participants’ autonomy in deciding their participation in the study.</td>
</tr>
</tbody>
</table>
3.11.2 Theoretical sampling

Theoretical sampling is essential in grounded theory, which is based on themes emerging from data. As some key concepts started to emerge from the initial interviews, I began to employ theoretical sampling (Charmaz, 2006). This type of sampling is considered part of a data collection process that enables researchers to generate theory (Glaser and Strauss, 1967). Theoretical sampling is a flexible technique that enables researchers to follow leads that emerge from data and, therefore, redefine the properties of the emergent categories and the relationships between them (Charmaz, 2014).

As the research progressed, I started sampling participants who could inform particular issues that arose from the initial data collection and analysis (Bryant and Charmaz, 2007). I also sampled for the concepts that emerged from the concurrent data collection and analysis (Corbin and Strauss, 2015). For example, a concept that emerged very strongly and needed further exploration was the impact of asthma on women’s roles as a wife, mother, and housewife. The women articulated the impact of asthma on their roles. They conveyed their inability to construct a valued role as a mother, wife, and housewife. The recurring statements on this issue guided me to pursue this issue further to capture a full understanding of such experiences. To do so, I asked myself the following questions: What is happening here? Why is this happening? and How does it happen? To explore these enquiries, I theoretically sampled those who were married and mothers. In relation to the aforementioned examples, I asked the participants questions such as: How does asthma affect your role as a mother, wife or housewife? How do you view yourself when asthma affects your roles in the family? How do people around you view you when your asthma affects your role? These questions helped me to capture the properties and dimensions of the concept and allowed development to a category level. Through this simultaneous data collection and analysis process, I was defining the properties of the experience by pulling them apart and subjecting them to theoretical analysis, which helped me to progress towards theoretical saturation (Charmaz, 2014). An example of this was when the women in the later interviews raised the issue of the impact of pregnancy on asthma. I returned to the interview transcripts of the initial participants, who all happened to have the experience of asthma during pregnancy. I theoretically sampled the data that were relevant to the same issue. I compared and contrasted the data that emerged and examined the similarities and differences between the various accounts. Grounded theory considers the importance of exploring and pursuing negative cases that are not in line with the emergent patterns of the
data. Such cases are useful in providing an alternative explanation of the emerging analysis (Charmaz, 2014).

Most of the later interviews were carried out to achieve theoretical adequacy of the categories. I employed this strategy with all the categories, which helped me to pull the parts of the experience together and construct theories about that experience (Charmaz 2014). My questions at this stage were focused, with the aim of checking, refining, elaborating and saturating, as well as understanding the relationship between the properties and dimensions of the theoretical categories developed. As a practical example, one of the women mentioned that the asthma experience is different for old people and children, which provoked a new area for exploration. From the women’s perspective, how and why did they believe that the experience of old people and children living with asthma differed from their own? To explore this inquiry, I had either to return to previous participants or look for fresh interviewees (Charmaz, 2014; Birks and Mills, 2015). Some of the former participants had an elderly person or child with asthma in their family. I re-contacted those participants and they agreed to a follow-up interview.
3.12 Data generation

Qualitative data can be collected through various methods (Corbin and Strauss, 2015). Interviews and observations are the two basic methods normally used in grounded theory studies (Glaser and Strauss, 1967; Strauss and Corbin, 1990; Glaser, 1992). However, interviews are useful if the researcher intends to understand the social world of the participants, which makes this a central data collection method in grounded theory (Charmaz, 2014).

3.12.1 Intensive interviews

Charmaz (1990) found that interviews were particularly useful when studying the experience of chronic illness. The current research aimed to understand the meaning of the experiences of adult Omani women living with asthma. This required me to immerse myself in the participants’ experiences using a continuous interpretation process.
Collecting first-hand data allows the researcher to see the participants, watch their facial expressions and body language, hear their voices, observe the interaction and become orientated within the setting. I kept memos to document analytical thoughts that emerged from the interviews (Charmaz, 2014). The essence of intensive grounded theory interviewing, as suggested by Charmaz (2014), involves using a semi-structured format. This interviewing technique facilitates in-depth exploration and interpretation of participants’ experiences (Charmaz, 2014). Semi-structured interviewing is a flexible technique that allows rich information to be gained to uncover a phenomenon and deepen the researcher’s insight into a particular experience. Grounded theory and intensive interviews work well together as both provide flexibility and facilitate the flow of the research exploration. This, therefore, enhances analytical power and facilitates theory construction (Charmaz, 2014). The data collection in this study started with the use of semi-structured interviews, which later became more structured and focused as the research progressed. Theoretical sampling (see section 3.11.2) guided further data collection (Coyne, 1997).

3.12.2 Interview topic guide
Charmaz (2014) encouraged novice researchers to construct a study guide. A study guide reduces the chance of novice researchers asking loaded questions or imposing their assumptions during the data collection process (Charmaz, 2014). I prepared my interview guide based on Charmaz’s suggestions about using open-ended questions (see Appendix 12). The topic guide provided in the Appendix 12 is the initial version used prior to any modifications resulting from theoretical sampling. The research questions guided the discussion topics selected for the interviews as well as the literature review. Open-ended questions allowed me to discuss the participants’ thoughts and perceptions as they emerged during the interviews. They also enabled me to explore the women’s experience of the aspects mentioned above without imposing my thoughts and assumptions (Charmaz, 2014).

I incorporated “what”, “how” and “when” questions into the interview guide to help me identify the relationships between the various issues or events articulated by the participants during the interviews (Charmaz, 2014). After reviewing the literature, various questions were adopted and adapted for the current study. Although the guide included a set of questions, the process of asking the questions was not linear. The guide included many open-ended questions and open statements which enabled me to start conversations with the women by asking them to tell me about their life with asthma. Such questions
permitted the women to talk freely and helped them to relax, while providing me with the scope to construct questions as they come to mind during the interviews. This approach facilitated the emergence of the concepts and their further development into categories.

The questions and prompts written in the interview guide assisted my greater understanding of the participants’ experiences, behaviours, beliefs, and attitudes. They were also helpful for the participants when they had difficulty in articulating their experience (Charmaz, 2014). I engaged a translator (who had a Bachelor’s degree in English-Arabic translation) to translate the study guide into Arabic.

I piloted the interview guide to examine its relevance and acceptability by women who are living with asthma and to have a sense of how much the interview questions reflected the concerns of the women (Green and Thorogood, 2013). The three participants interviewed for the pilot study had similar characteristics to the study participants. However, I did not include the data from the piloted interviews in the final study. After the three pilot interviews, I refined and developed a few of the questions. I also discussed the study guide with my UOM supervisors and we all agreed upon what to include.

I revisited the guide whenever a new idea or theoretical concept emerged from the interviews in line with the principles of theoretical sampling (Holloway and Wheeler, 1996; Charmaz, 2014). I also revised the guide when arriving at interesting but incomplete categories. To fulfil promising avenues, I focused the questions on gathering more data on those categories and their properties (Charmaz, 2014). Creating, using, and refining the study guide helped me to use the guide wisely and efficiently. In practical terms, this ongoing process of refinement and development of the study guide helped me to ask well-constructed questions (Charmaz, 2014). The sampling and data collection sections provide evidence of the interview guide transformation.

3.12.3 Collecting data
After obtaining informed consent, each interview was audiotaped using a new iPhone mobile, which had been bought and was used solely for this study. Using recorders helped me to focus my attention on what the women were saying, what they were not saying, and the way they expressed their experience through their words, facial expressions, and body language (Charmaz 2014). It helped me to better understand the participants’ responses. However, the presence of a recorder can restrict participants in articulating their experience, especially when they are discussing a sensitive topic. They might feel more
relaxed in discussing their particular issue when there is no recorder or when the recorder is switched off (Warren, 2002).

I conducted 29 interviews, all of which were in Arabic. I interviewed all the participants myself to ensure consistency and to improve my skills in interviewing. The interview times ranged from 50 to 70 minutes. I had a personal interest in this study, as my mother and younger sister have asthma. Throughout the study phases, I ensured that I reflected on my personal experience as well as my professional and theoretical assumptions (see section 3.21). According to Brink and Wood (1998), people seem to be interested in telling their stories to researchers who show compassion about their experience. Charmaz (2014) reported the importance of the researcher’s interest in achieving theoretical sensitivity.

Those who agreed to participate were asked to identify a convenient place and time for an interview. This flexibility enhanced the recruitment process and showed respect to the study participants. Most of the interviews took place while the women were waiting to see their doctors. Some of the interviews, agreed with the women concerned, were conducted after they finished their medical consultation. Data collection procedures were flexible enough to be modified according to the participants’ preferences. I conducted the interviews in a quiet room which I arranged in advance. At the beginning of each interview, I ensured that the participant understood the scope of the study and was still willing to participate. I also obtained informed consent and requested permission to audiotape the interview. All the women who consented came for an interview.

At the beginning of the study, a few women were not comfortable with having the interview audiotaped. This may have been because participating in research was unfamiliar to them, especially qualitative research. This type of research is considered new to Omani culture. A brief discussion was held to highlight the need for me to audiotape the interviews and how that might help me in conducting my research. I also assured the women about the anonymity and confidentiality of their data. Ultimately, I left the decision to the participants to decide whether to audiotape each interview. All the participants agreed that I could audiotape their interview.

To relieve the participants’ tension, I started with factual questions (Holloway and Wheeler, 1996). I began the interviews by asking about the demographic characteristics of the participants and their level of education. I found this helpful in commencing the interview and these straightforward questions allowed the participants to relax.
Any missing information was gathered later from the computer record system at the study site from which the women was recruited and the researcher had the consent for this. Data about asthma severity and control level were also gathered from the women’s computer medical records and the researcher had the consent for this. See Appendix 13 for an example of a demographic data form.

In the first few interviews, after collecting the demographic data, I started to ask open-ended questions about asthma and how it affected the participant’s life. Examples of questions that I used are: Would you please tell me about your experience of living with asthma? How would you describe your experience of living with asthma? These open-ended questions allowed the participants to feel free and relaxed to talk about their experiences. The participants’ narratives directed the subsequent questions. Throughout the interviews, I encouraged the participants to articulate their experiences in their own words and encouraged them with question prompts (Charmaz, 2014; Hussein and Partridge, 2002).

Throughout the interviews, I showed my understanding of the participants’ accounts through probing questions and by nodding my head while they were talking. I also used probing questions when clarifications were needed. I used probing questions that mirrored the terms used by the participants to signal my understanding of what they said and to invite elaboration. Doing this provided the participants with a sense of self-worth and respect. It also clarified the meaning of terms that participants took for granted. It also assured me of the significance of my questions (Charmaz, 2014). This kind of question has been found to reduce the levels of stress felt by researchers and participants throughout interviews.

To make sure that I captured the conceptual meaning of the women’s accounts, I also paraphrased their words. I used probes such as ‘Tell me more about…’ to get a rich description of their experience. Probing questions are useful when the expansion of information on a specific area is required (Holloway and Wheeler, 1996). Some of the participants tended to use idiomatic expressions and metaphors. I clarified the meaning of these expressions with the participants before concluding the interview.

### 3.13 Transcribing

The philosophical stance and underpinning theoretical framework of grounded theory encourages researchers to understand and interact with their data. It urges researchers to
get as close as possible to their data. The transcription process further facilitates this
closeness (Halcomb and Davidson, 2006). Charmaz (2014) emphasised that the content
and structure of language might influence the understanding of a phenomenon. Thus, it is
important to maintain data credibility and integrity (Squires, 2008).

I labelled, dated and saved each interview recording. As soon as time permitted, I listened
to the interview recordings and transcribed them verbatim into Arabic. Listening to the
audio recording of the interviews, especially the first few sessions, helped me to evaluate
my conduct of the interviews. I was able to identify instances where my questions were not
working and where I unintentionally forced the data or prematurely closed a topic. I could
also identify who was leading the interviews: me or the participant.

Holloway and Wheeler (1996) encouraged research students to transcribe their tapes, as
this increases their immersion in the data (Wellard and McKenna, 2001). Verbatim
transcription was an activity whereby I reproduced the audiotaped data as written text
(Halcomb and Davidson, 2006). I transcribed the words, pauses and, in several cases,
sounds. I found this to be important, as the sounds were rich in hints and clues regarding
the women’s emotional status while they were discussing their experience. Time taken in
transcribing each interview varied from four to six hours. Although it was time-consuming,
I found it worthwhile. I would listen to the same interview several times to make sure that I
transcribed it correctly. Nonetheless, this was not a mechanical task in which I simply
typed the words spoken in Arabic. While listening to the interviews, I was making notes on
how each woman spoke, her voice tone and pauses. I considered these because they were
important for data interpretation (Bailey, 2008). I was in continuous conversation with
myself and with the data. Those self-conversation activities in the form of memos helped
me to grow close to the data and better understand them. Concurrently, I was referring to
the interview audio recordings, the transcripts, and the related reflective memos to identify
gaps in the data. That reflection directed further exploration and facilitated data richness.
Overall, the benefits of carrying out the transcription myself outweighed the difficulties
(Halcomb and Davidson, 2006).

3.14 Translating

For data analysis, writing the PhD thesis and publication, the data had to be translated into
English (Twinn and Kan, 1994). This research examined the subjective experience of
Omani women living with asthma. I believe that the meaning of experience is socially
constructed (Barrett, 1992). Language has a vital role in constructing the meaning of the
experiences of the women who participated in this research (Van Nes et al., 2010). Squires (2008) expressed the impact of the translator on the research process in general and on specific findings. Hiring a professional translator would have limited my immersion in the research data and the participants’ context. The background of translators can also play a role in how they interpret and conceptualise research data (Larkin et al., 2007). A translator might be able to provide the literal meaning of spoken words; however, it is not always certain that he or she will understand the relative meanings of those words. I viewed myself as being in a good position to translate the interviews since I share the language and culture of the participants. Speaking the same language as the participants minimised the language differences during the data collection and analysis phases (Van Nes et al., 2010). Translation strengthened my interaction and construction of the generated data. Having the same person conduct, transcribe and then translate research data enhances the reliability of the data (Twinn, 1997).

Translating research data from the mother tongue, which was Arabic in this study, into English has advantages and disadvantages. Moreover, during the interviews, the participants and I communicated using ‘colloquial Arabic’. This is an oral version of Arabic which varies according to the participants’ social position and geographical area (Al-Amer et al., 2016). I recruited the participants from three different locations in Oman. I noticed a slight difference in the participants’ dialects and the participants mentioned several terms that were not clear. Deciding which word would give the best meaning was difficult to some extent, which might influence the trustworthiness of the research and its publication (Birbilli, 2000). To ensure the trustworthiness of this research, I enquired of the participants the conceptual meaning of words they used at the time of the interview. While doing so, I gained a rich description of the participants’ meanings. Uncovering the words and concepts used by participants is central to understanding their experience (Gibbs Jr and Franks, 2002). Moreover, I used Almawrid: A Modern English-Arabic Dictionary to aid the translation in providing the closest meaning of words (Munir Baalbaki, 1996). These techniques helped to preserve the meaning of the women’s accounts in the translation process.

I sent several translated transcripts, particularly for the initial interviews, to my UOM supervisors. I also reflected on my interviewing process: what went well and what went wrong. It was helpful to receive feedback from them on how I conducted the interviews. They checked the transcripts and the reflection and provided positive feedback. More probes were recommended to help the women articulate their experience. I considered their
feedback for the subsequent transcripts. I also randomly selected parts of the translated interviews for back translation. I carried out back translation for parts of the first few interviews to maximise the accuracy of the translation into English (Temple and Young, 2004). Appendix 14 provides an example of back translation.

The process of translation was tedious, exhausting and time-consuming. However, I found it a good experience that increased my immersion in the data. I was actively involved and interacted with the research data to identify the vocabulary that would best match and interpret the Arabic words (Keichirō, 2001; Wu, 2006). It helped me to validate and reflect on what had been transcribed and, therefore, to construct the participants’ experience in their language (Temple and Young, 2004). As discussed, several activities were undertaken by the researcher to make sure that the translated work was as close as possible to the original language (Al-Amer et al., 2016). The activities were intended to strengthen the rigour of the translation process.

3.15 Data management

Initially, I used Computer Assisted Qualitative Data Analysis (CAQDAS) data management software, specifically, NVivo version 11, in collating and organising the research material (Zamawe, 2015). The literature reveals a debate on using such software in qualitative research (Dainty et al., 2000; Welsh, 2002). This software has been viewed as facilitating the organisation of the data collected and giving a clear picture of who said what and when and is claimed to increase the rigour of research data. This type of software might also, however, quantify the data and detach the researcher from the data. Studies also presented concerns that the software might restrict the intuition of the researcher in interpreting the data (Dainty et al., 2000; Welsh, 2002). I found that I did not feel comfortable using NVivo. I thought that NVivo might distance me from the data and, as I wanted to stay close to the data, I decided instead to use Microsoft Word 2010 for data management. Considering the limitations and strengths of the NVivo software, as well as the researcher’s limitations in using it, I incorporated it during the preliminary phase only to organise the initial codes. Considering the enormous number of initial codes I generated, using NVivo was helpful at this stage. Manual analysis then helped me to view the codes, memos and context of the data concurrently. I preferred handling the data manually using Charmaz’s suggestions for analysing data (Charmaz, 2014). The next section discusses the coding process.
3.16 Data analysis

Data analysis started concurrently with the data generation to ensure that categories were grounded in the research data (Charmaz, 2014; Birks and Mills, 2015). In making sure that the categories of this research emerged from the voices of the women in this study, I used the strategies recommended by Charmaz in analysing the data: data coding (initial, focused and theoretical), the constant comparative method, memo writing and diagramming, and data saturation (Charmaz, 2014).

3.16.1 Coding

For the initial coding, I incorporated NVivo software version 11 to break down the data generated from the interviews. I examined the data line by line to determine the action or events in each sentence and provided them with a relevant label. I wrote the codes using either gerunds or the participant's own words (Charmaz, 2014). Charmaz advised using gerunds when labelling codes rather than naming them according to their topic areas to foster theoretical sensitivity (Glaser, 1978; Charmaz, 2014). Action terms provide a greater sense of people’s experience, maintain the flow of the data, and allow the researcher to interact actively with her data (Charmaz, 2014). This facilitated my understanding of the experiences studied. It also helped in identifying the gaps in the data in that early stage, which is part of the essence of grounded theory (Charmaz, 2014). Coding line by line and writing the codes using action terms facilitated my engagement with and immersion in the data. By proceeding line by line, new ideas and thoughts emerged from the data that I pursued in subsequent interviews (Charmaz, 2014). I made sure I stayed close to the participants’ accounts. Consecutive inquiries were then guided by the participants’ words. During the initial coding, I referred to the Arabic transcripts to make sure that the codes conveyed the meaning of the data. When I finished the initial coding of the interviews, I reviewed them thoroughly to ensure that they captured the meaning given in the data. I reviewed the previous interview before moving to the next, an approach that I found helpful. Appendix 15 provides examples of line-by-line coding.

I sent the initial codes of the first five interviews to my UOM supervisors. Data can be coded differently by different people (Charmaz, 2014). My supervisors commented on overcoding in some places and undercoding in others. However, they welcomed overcoding in avoiding missing important data. Another issue regarded the use of medical terminology and writing long statements in coding the data. I overcame these issues by increased use of action-term gerunds in naming the codes. Moreover, some of my code
statements were found to be judgemental. Therefore, while going through the coding, I was conscious of understanding the data, incidents and experiences from the women’s perspective, rather than simply judging them based on my professional assumptions.

At some point in this stage, I felt overwhelmed and challenged by the number of initial codes I gained. It was necessary for me to go through the initial codes and revise them with regard to their focus. While doing this, I asked myself why I had given the codes the names I had. I recorded the answers to this question in my diary. I wanted to make sure that the given codes attended to the data generated and I found this practice useful.

In the second stage, focused coding, I grouped the initial codes into categories and provided them with specific labels that reflected the concepts involved (Charmaz, 2014). Categories are groups of concepts the researcher thinks are the key themes that reflect the concepts involved. The decision to group the initial codes involved utilising constant comparison between the codes and was influenced by the use of memos. At this stage, I was able to decide the appropriate concepts and their relevant grouping. This also helped me to identify which categories needed to be evaluated and refined.

The categories evolved as the analysis process progressed. For example, in one of the supervisory meetings during the discussion and analysis review, the category ‘Women’s choice of healthcare services’ emerged. From the initial codes, there were several reasons for choosing the types of services available for the women to manage their asthma. Instead of putting all the codes under the ‘Type or place of healthcare services’ category, using conceptualisation enabled me to merge them under the category of ‘Women’s choice of healthcare services’. This category explained the conscious selection the women made in choosing between the various services available to manage their asthma, how they made the choices, and what influenced them. At this stage, I compared the categories that emerged in order to bring together all the data that explained the experience of adult Omani women living with asthma. Appendix 16 provides examples of focused codes.

In the final stage, theoretical coding, I examined the relationships between the various categories that emerged from the focused coding. I found concept mapping useful throughout the entire process of coding and particularly at this stage, in which I aimed at narrowing the constructed categories and their underpinning focused codes. This helped to generate the categories of the study findings. I continuously reflected on the data to ensure that they were represented by the theoretical codes (Charmaz, 2014). There was no single
core category and numbers of categories were identified. This process yielded four categories, which are discussed in turn in chapters five, six, seven and eight.

Overall, by coding, I was able to answer several inquiries regarding the data, such as how I considered the data, how my participants responded, what meaning they provided for their experience, and why they acted the way they did. This type of coding helped to indicate gaps in the data and revealed possible relationships between them (Charmaz, 2014).

Appendix 17 provides examples of the development from initial codes to the emergent categories to demonstrate the audibility of the process. Appendix 18 provides a summary of the categories that emerged during the coding process.

3.16.2 Constant comparative method

Following the principle of constant comparison in analysing the data for this research, I made a code-to-code comparison. I then compared the codes with the emerging data. During this stage, I found that many of my codes overlapped and focused on similar concepts, so I started categorising the codes. I compared the data and the incidents, during the same and different interviews. I examined the different and shared properties of the incidents. I also examined and compared the context of the incidents to better understand the individual accounts of the participants and then the overall experience. I continuously assessed the initial codes regarding their focus and completeness. I also conceptualised what was taking place with the data generated and what was coming next for further exploration. As a consequence, I was able to satisfy the ‘fit’ and ‘relevance’ core principles of grounded theory analysis (Charmaz, 2014).

For instance, I wanted to understand the reaction of the women when they first received their diagnosis. To understand the sequence of this process, what was recounted by the women, and how they felt at the time, I started comparing the women’s reactions to their diagnosis of asthma. Comparing and contrasting these incidents among the women’s various accounts revealed rich data about the worrying moment of being diagnosed with asthma. The women articulated several influences that shaped their reactions and the type of feelings they experienced. I grouped the similar properties of these incidents and identified differences between them.

I was not able to develop a core over-arching category which explained the women’s experience as Glaser and Strauss had envisaged (Glaser and Strauss, 1967). Although the development of the core category is central according to Glaser and Strauss (1967), the
importance of this is lessened in Charmaz’s work (Charmaz, 2014). Development of a core category is not considered to be an essential requirement of a Charmazian grounded theory (Charmaz, 2014). Instead, I developed a rich description of the women’s experience (with some grounded concepts), in line with the recommendations in Charmaz’s work (Charmaz, 2014). Instead of a core category, Charmaz has emphasised how the categories and their subcategories are linked together to construct an abstract grounded theory of the topic of enquiry (Charmaz, 2014). In line with this, Hallberg (2006) states that “the results of a constructivist grounded theory study is (sic) more seldom presented as a theory than as a story or a narrative, including categories, told by the researcher with a focus on understanding of social process.” (Hallberg, 2006, p 146). This was the approach followed in this study.

3.16.3 Memo writing
Charmaz (2014) strongly advocated ‘memoing’ as a pivotal method in grounded theory, through which the researcher will be in continuous active immersion and interaction with his or her data. Soon after I finished the interviews, and as time permitted, I made sure that I wrote memos. I wrote my memos using gerunds in a separate notebook and arranged them in order. I was continually engaged in memo writing through maintaining analytical notes which recorded and reflected upon my assumptions (Charmaz, 2014; Birks and Mills, 2015). At the beginning, the memos were more general and I recorded my feelings, thoughts, and hunches. This kind of memo helped me to stay orientated to my assumptions and grounded the findings in the research data (Charmaz 2014). During the initial phase, my memos concerned my personal and professional thoughts and theories about the women’s experience of living with asthma. As the research progressed, the memos became more directed and focused. They facilitated my theoretical sensitivity to the data that emerged by constantly comparing the data and what they revealed (Thornberg, 2012). Whenever new ideas emerged from an interview, I made sure that I explored it in consequent interviews. The memos guided me with regard to the next sampling step. After each interview, I used the memos to reflect on the main concepts that emerged and what needed more exploration. Accordingly, I wrote a mini-plan of what to look for next and where to sample theoretically. For instance, whether I was going to look for a woman who was married, pregnant, had children, was employed, a housewife, had severe or moderate asthma, and from which healthcare setting. Examples of memos can be seen in chapter six.
3.17 Theoretical saturation

Theoretical saturation for the main categories was reached after I analysed interview Number 27. At this point, I started noticing the same concepts emerging repeatedly. For instance, I contrasted the accounts of the reasons for treatment choices described by women from a regional area with those given by women from the capital city. Moreover, I contrasted the accounts of married women with single women and those of mothers with other married women who have children. I considered age, educational attainment and the level of asthma severity in this process of comparison. When all the properties and dimensions of the emerged categories of the experience of interest developed and no new concepts were generated, the sampling process ended (Creswell, 2014). However, I did not achieve this saturation in some of the categories that emerged earlier or later in the study. For example, the effect of asthma on women’s menstruation and childbirth emerged from a few interviews; however, later interviews did not raise these issues, so I concluded that these incidences were less common within the group of women I was studying. A further two interviews were conducted to validate the emerging properties of the main categories and their interrelationship. I believe that knowing when theoretical saturation has been reached is a matter of the experience of the novice researcher. Continual discussion with the UOM supervisory team, as well as memo writing, was helpful in identifying the data saturation point.

3.18 Theoretical sensitivity

Glaser (1978) established that theoretical sensitivity plays a key role in grounded theory studies. Theoretical sensitivity reflects researchers’ ability to ask questions of the data analysed and provide meaning at an analytical level. It is essential for researchers to understand their data and be aware of their interpretation to ensure that the concepts that emerge and, therefore, their conceptual theory are grounded in their data. To achieve the principle of theoretical sensitivity, Glaser (1978) stressed the need for researchers to engage with and immerse themselves in the data. Glaser (1978) also emphasised the importance of researchers knowing the meaning of their data and understanding their participants’ perspectives, which are significant and crucial.

However, Glaser (1978) argued that for researchers to maintain their analytical stance, they should try to minimise their predetermined assumptions before entering the research setting. Conversely, Corbin and Strauss (2015) suggested that researchers draw on a range of resources, including the existing literature and professional and personal experience, to
develop insight into a proposed study. The existing literature enlightened me by providing background information and predetermined ideas or hypotheses. Professional and personal experiences are argued to be helpful in informing data analysis. Corbin and Strauss (2015) maintained that researchers’ experience in a specific area helps them to understand how things work. They demonstrated the usefulness of theoretical sensitivity in providing meaning for data and reducing researcher bias in interpreting and presenting the data.

I was able to demonstrate theoretical sensitivity at several points of this research throughout the thesis. Reviewing the literature was an ongoing process as the research progressed. The initial review of the proposed study increased my understanding and gave me a frame of reference for the study. Further review was conducted iteratively and was guided by the findings and used in dialogue with the discussion. The literature review and the researcher’s previous knowledge and experience also might have helped in suggesting potential categories. Throughout the simultaneous data collection and analysis, I was conscious of the need to remain open to what might come from the data. For instance, one of the initial codes was ‘Having a fear of inhalers’. When I acquired this code, I returned to the Arabic as well as the English transcripts. I read and re-read them many times. I wanted to make sure that the code had emerged from the women and had not been influenced by my experience of having a mother who has a fear of using inhalers. My immersion in the data helped me to generate and present unbiased results that emerged from the participants’ accounts (Strauss and Corbin, 1990). Being actively involved in the comparison and then writing my thoughts and ideas about what was happening enhanced my analytical sense in viewing and dealing with the generated data. Conducting concurrent data generation and data analysis helped me to engage deeply with the data (Charmaz, 2014). It also enabled me to uncover relevant issues and, therefore, develop related categories at a later stage (Corbin and Strauss, 1990).

Researchers’ understanding of the data and their interpretation is essential for theoretical sensitivity to occur (Glaser, 1978; Strauss and Corbin, 1990). The women’s accounts in this research indicated the frequent use of healthcare services, especially emergency care. This account was in line with the literature. However, I was interested in exploring the women's perspectives on the reasons behind their frequent utilisation of acute health services. I also tried to understand the influences that might decrease such utilisation. By doing so, I aimed to elicit the women’s meaning and understanding of their frequent health service utilisation and their reasons behind this. At the same time, I intended to challenge implicit assumptions that I had gained from my previous experience and the literature.
Charmaz (1990) established that for researchers to develop categories, they must have a strong foundation in sociological concepts but not be linked to them. As part of my literature review, I encountered several concepts that I thought pertinent to the experience of chronic illness in general, such as stigma, uncertainty, biographical disruption, and illness trajectory. Charmaz (1990) encouraged researchers to be cautious of the delicate balance between their intention to possess a foundation in their discipline and their effort to push this further by imposing concepts on their data. In the current research, although I introduced several sociological concepts, I was conscious that they should not shape the analysis of my data but would instead be sensitising concepts that might inform the analysis. I sustained the notion of proceeding with an open mind but not an empty head, which meant that I had to have an idea of what data I would be collecting but I should not use this to direct or generate my data. I achieved this objective stance by being a critical thinker to stimulate thoughts and recognise the data (Corbin and Strauss, 2015).

Charmaz (2006) suggested that for researchers to be sensitive to their data, they have to stop and think anew. They have to consider different resources, including the literature and their personal and professional backgrounds. They also have to compare data from various sources, follow leads and build new ideas (Charmaz, 2006). For instance, with the notion of stigma, instead of applying it to the data, I used the concept to ask questions, such as under which conditions women felt stigma, why, and with what consequences? Furthermore, I used memo writing to examine my pre-assumed, pre-existing and developing knowledge. Being theoretically sensitive, thinking critically and writing memos facilitated the development of the generated data into categories.

3.19 Ethical considerations and research governance

This research gained approval from The University of Manchester (UOM) (see Appendix 19). Before conducting the research, I also sought approval from the tertiary hospital’s research ethics committee and the MoH in Oman (see Appendices 20 and 21, respectively). I followed ethical considerations throughout the research process to protect the participants’ rights to give informed consent to participation, to confidentiality and anonymity, autonomy, and having their dignity and respect maintained.

3.19.1 Informed consent

The principle of informed consent is the cornerstone of any ethical guidelines (Green and Thorogood, 2013). It conveys the participants’ willingness and understanding regarding participating in a study (Creswell, 2014). Before they consented to take part in the study, I
stressed to the participants the importance of participating willingly; not being coerced by anyone, such as their GPs, was also clarified and emphasised (Green and Thorogood, 2013). I wanted to make sure the participants understood their right to refuse to participate. Before the commencement of each interview, I read and discussed the information sheet (Appendices 22 and 23) with the participant using the native Omani language, in which I am fluent. The participants were encouraged to ask questions and clarify any doubts before signing the informed consent form. I gave a copy of the information sheet to the participants along with the researcher’s contact number. I provided eligible participants with sufficient verbal and written explanation of the study, including my qualifications. I also discussed with them whether they needed time to consider their participation in the study or wished to discuss this with their families. However, none of those who agreed to participate saw any necessity to discuss their participation with their families. I sought informed consent (Appendices 24 and 25) at the time and place of the interview. I anticipated that some of the participants would not be able to read and write English or Arabic. I arranged to take oral consent in the presence of a witness (their GP). However, I did not use this arrangement since all the participants could sign their names on the consent form.

In consideration of the use of theoretical sampling, the process of obtaining informed consent from participants continued throughout the data collection process. I also obtained permission from the participants for follow-up contact for theoretical sampling. Not all the participants agreed to follow up. Those who agreed were asked to leave their telephone number. Their right to change their mind regarding re-contact at any time was assured and I asked them about their preferred time for further contact. Their contact telephone number was kept on a separate sheet and stored securely in a locked cabinet. I re-contacted eight women for follow-up interviews.

3.19.2 Confidentiality and anonymity
Confidentiality is considered a central principle in social science, as it protects participants’ privacy and their information from being disclosed (Green and Thorogood, 2013). I discussed with the participants how I would use the data and who would access the information. I assured them that none of their HCPs or anybody else, other than the researcher, would have access to the material. I also discussed with them how I would preserve their confidentiality by using password-protected encrypted storage devices. I made sure when quoting participants in the thesis that no one else would be able to identify them. Larossa et al. (1981) stated that close attention when handling participants’
transcripts and audiotapes would protect their anonymity and confidentiality. All the participants’ details were anonymised and given codes; which could be identified only by the researcher. I created a code for each participant. The interviewees were each given a pseudonym, rendering all transcripts anonymous. They were also given an identifying code to signify their recruitment setting (i.e., a primary or tertiary setting). I was the only person who had access to the code key. I stored a soft copy of the participants’ documents and audiotapes in encrypted computer files on the UOM server.

I was the only person who knew the identity of the participants and could access the transcripts and audiotapes that provided their identity. Any interview transcripts and audiotapes that contained the participants’ identities were stored securely in a separate locked cabinet in my house in Oman. Later, when I returned to the UK, these documents were securely locked in a separate cabinet in the UOM Postgraduate Office. I sought permission to audio tape each interview. I explained to the participants the possible need to use direct quotations for the thesis and related publications (Green and Thorogood, 2013). The quotations were free from any information that might indicate the participants’ identities.

Once I finish the PhD and have completed the publication of this work, I will confidentially erase the recordings. I will keep the transcripts (anonymised by codes) and consent forms for five years and I will store the data in an encrypted computer in accordance with the guidance regarding data storage in the UOM regulations. Any information gathered for this study will be used solely for the purposes of this research.

3.19.3 Autonomy

Based on the kind of topic discussed in the interviews, there was a possibility that participants might become upset or distressed. Exploring experiences of chronic illness can provoke psychological distress. Therefore, I assured the participants through verbal and written information that they had the right to withdraw from the research at any time without penalty with regard to the treatment and services provided. I prepared a distress policy (Appendix 26). Throughout each interview, I observed the participant for any signs of discomfort, anxiety or distress. A few participants experienced discomfort during the interview; these were generally women who suffered frequent and severe asthma attacks. When this happened, I stopped the interview and gave the participant time to recover from her distress. The option to either recommence or terminate the interview was given and discussed with the participant.
As recommended by Larossa et al. (1981), as a precautionary procedure, I contacted the managers of the three institutions to facilitate an arrangement with a psychologist. I discussed with the participants the opportunity to make contact with their healthcare professional at the local primary unit and, if they wished, they could be referred to a professional counsellor/psychologist whom I had already identified and contacted. However, none of the distressed participants were in favour of this choice. They just took a few minutes of silence, drank a glass of water, and then showed their willingness to complete the interview at that time.

With regard to physical discomfort, I expected a minimal level from sitting for one hour or more for interviewing. Participants were informed and reminded that they had the right to stop the interview at any time or take a break when needed. However, none of the participants asked for a break or showed any physical discomfort during the interviews. Conversely, most of the women conveyed that this was the first time they had talked about their experience of living with their illness in such an open way. They conveyed their feeling of comfort at having the opportunity to reflect on the disturbing experience of living with asthma illness.

3.19.4 Maintaining the dignity of and respect for the participants

As this might have been the first time they had participated in an interview, I anticipated that the participants might find the interview process stressful. I wanted, therefore, to minimise the women’s stress and ensure they relaxed during the interview. Allowing the women to select the time and place of the interview was an important factor in initiating and enhancing a good relationship with them. It gave an element of control to the participants.

The dignity of the participants was protected by establishing and maintaining a good rapport and a mutually respectful relationship with them (Charmaz, 2014). This was important to ensure an in-depth exploration of the women’s perspectives that would reflect positively upon the quality of the data generated (Green and Thorogood, 2013). I maintained my respect for the participants throughout the data collection process. Establishing mutual rapport with the participants reduced the power imbalance between us (Green and Thorogood, 2013). At the beginning of each interview, I extended my appreciation to the participant for providing me with the opportunity to talk to her. While interviewing the women, I was conscious of the need to allow them to talk freely about
their experience of living with asthma. The women’s views were always listened to and respected, even if they were different from my own.

3.20 Rigour of the research

Maintaining rigour and ensuring a high quality of qualitative research is important to achieve trustworthiness in the findings (Tong et al., 2007) and, therefore, for their value to be considered in influencing practice, policy and future research (Spencer et al., 2003). Parallel to the epistemological stance of this study, which is underpinned by a constructivist paradigm, the researcher recognises her and the participants’ role in constructing the explored subjective experience. The paradigm also considers the importance of reflexivity and data triangulation (Quinn Patton, 2002). Corbin and Strauss (2015) believed that the evaluative criteria for various qualitative research methodologies depend on their theoretical foundation. Evaluation criteria should be consistent with the philosophical position of the research and informed by the aim of the research (Fossey et al., 2002). Charmaz (2014) advised four criteria for her constructivist grounded theory: credibility, originality, resonance and usefulness. She stated that maintaining credibility and originality ensured the resonance and usefulness of a piece of research. In other words, for the research to make sense and be useful, it should first be credible and original (Charmaz, 2014). Corbin and Strauss acknowledged these criteria as “the most comprehensive” (Corbin and Strauss, 2015, p 343). The rigour of the study was ensured by employing these criteria, as outlined in the following sections. The originality of the study is discussed in section 9.15 under the unique contribution of the study.

3.20.1 Credibility

Credibility is concerned with the richness and accuracy of the experience studied (Beck, 1993). I have provided sufficient details of how I generated the research data through concurrent data collection and analysis processes (Charmaz, 2014). The research process and procedures used in conducting this research have been recorded explicitly and logically and I ensured the consistent employment of the systematic methodology of grounded theory. I also adhered to the principles of grounded theory, which include systematic and simultaneous data collection and analysis, as well as constant comparative analysis. The relationship between the constant comparative strategy and theoretical sampling was used to enhance theoretical sensitivity and to fulfil the properties of the categories that emerged. Throughout the research process, I maintained a reflexive diary, my memos containing reflections on data gathering and the interpretation of the findings.
These techniques allowed codes and categories to emerge from the data, which ultimately resulted in the generation and construction of theory (Charmaz, 2014).

Interviewing women from different socio-demographic backgrounds enriched the research with multiple views and perspectives of the experience of Omani women living with asthma. This enhanced the objectivity and trustworthiness of the data generated (Tashakkori and Teddlie, 2003). Credibility was further ensured through the use of multiple settings and women with various asthma severity levels to strengthen the trustworthiness of the generated data. Lincoln and Guba (1985) suggested participants’ validation as an important technique to verify the credibility of a qualitative study. However, the participants of this study came from various regions of Oman and it was a challenge to invite them a second time to comment on their interview accounts and the themes and categories identified from the study findings. Calling the participants again may also have put an additional burden on women who had already given their time for an interview. Furthermore, I believe that participants’ validation might create confusion, as some participants might change their minds about their experience because of events that might have occurred since the time of the initial data collection.

Throughout the research process, I undertook peer-debriefing with the UOM supervisory team. This was helpful in refining the research process whenever needed and to ensure the analysis stayed close to the data. I continually discussed the data collection and data analysis with the supervisory team. The continual discussion I had with my supervisors about my views helped me to set aside my assumptions (Tufford and Newman, 2012) and, therefore, any subsequent bias, which improved the credibility of the study (Lincoln and Guba, 1985). The discussion also ensured the reliability of the coding, as my supervisors were continually reviewing and examining the codes assigned by the researcher. Any disparity identified between the researcher’s and her supervisors’ codes were analysed and discussed. Consensus between the supervisors and the researcher was sought regarding the codes, the content of the themes and the interpretation of meaning (Goldblatt et al., 2013).

I presented the research data several times in local seminars and once at a national conference: Royal College of Nursing Conference 2016. The feedback and critical comments received from the seminars and conference were very helpful. The presentation of the research findings and the supporting quotations demonstrate a coherent argument that provides a clear explanation of how adult Omani women perceive their life with asthma.
3.20.2 Resonance

Charmaz (2014) viewed resonance as the extent to which a constructed theory make sense to the study participants and those who share similar experiences. Resonance is also concerned with how much a theory provides in-depth insights into participants’ lives and the overall world. In this study, resonance concerns how well the emerging categories portray the richness of the women’s experience (Charmaz, 2006). The combination of interviewing women with diverse characteristics and the study settings, along with the use of theoretical sampling and the evolution of the topic guide, facilitated the saturation of the categories that emerged and their properties were fully identified. Saturation was sought by including participants from various backgrounds, age ranges, marital status, employment status, educational level, and asthma severity. I recruited participants from three different geographical areas. This was important to capture and reflect the full experience from the perspectives of women who shared various circumstances. I started each data interview with an open-ended question: “How would you describe your experience in living with asthma?” The women’s accounts guided the subsequent questions. Therefore, the study guide, as well as the areas/topics explored, underwent continuous modification and refinement according to the participants’ descriptions.

3.20.3 Usefulness

Usefulness reflects how well the analysis of a study provides an interpretation and solution that people can use in their day-to-day life (Charmaz, 2014). The usefulness of research is questioned if it does not contribute to knowledge in any meaningful way, particularly in relation to healthcare research (Andrews, 2012). The researcher was clear about the purpose of her study, which was, ultimately, to construct a conceptual theory about the experience of women living with asthma. Previous research relating to asthma published in the Gulf region in general and in Oman in particular mostly involved quantitative studies that focused on prevalence, symptoms and cost. Evidence from Middle Eastern countries of the experience of women living with asthma is limited. To my knowledge, this is the first study within the Gulf region that explores the experience of adult women living with asthma. The analysis of the women’s views contributes knowledge that provides a better understanding of women’s needs, concerns and challenges. The knowledge generated can be used to inform clinical practice and policy to improve the experience of Omani women living with asthma and can, moreover, be used to inform future research.
3.21 Reflexivity

Reflexivity refers to the practice of researchers making their influence on their research explicit to themselves and their audience (Gentles et al., 2014). In qualitative research, reflexivity is considered a key element in critical appraisal and research reporting (Tong et al., 2007; Cohen and Crabtree, 2008) and is believed to enhance the transparency and trustworthiness of the research (Gentles et al., 2014). Grounded theory is a qualitative research approach that is based on systematised and simultaneous data collection and analysis, which, in turn, influences the generation of subsequent data (Charmaz, 2014). As such, this design acknowledges reflexivity (Annells, 1996) and received special attention from Charmaz, the founder of constructivist grounded theory (Charmaz, 2006; Charmaz, 2014).

Hall and Callery (2001) provided an explicit proposal for how to incorporate reflexivity regarding the role of researcher-participant interaction in constructing data. Hall and Callery (2001) perspective is aligned with the methodological position of symbolic interactionism, which focuses on the meanings that experiences hold for people and on the symbols that communicate those meanings. They proposed the use of reflexivity in the data collection process as a means of filling the quality gap in grounded theory. Mruck and Mey (2007) maintain the practice of reflexivity in all phases of the research process. However, their emphasis on reflexivity during writing was remarkable.

Previously in this chapter, I discussed how my interest and background guided the selection of the research topic and primary research question. I also argued my rationale for using constructivist grounded theory and justified the decisions I took regarding data collection and analysis methods. Moreover, theoretical sensitivity as a type of reflexivity was discussed in section 3.18 and is revisited throughout the thesis. Hall and Callery (2001) established that, through theoretical sensitivity, grounded theory methods have already attained reflexivity.

I was conscious of my role and influence in the research process (Finlay, 2002) and in shaping the representation of the women’s experience (Gentles et al., 2014). Steedman (1991) suggested that reality or knowledge cannot be separated from the knower. Therefore, I used a reflexive approach throughout the entire research process. Reflexivity supports the idea that knowledge about people and their experiences is a social activity with a social effect (Cutcliffe, 2000). Researchers should reflexively think about how they might have influenced the collection and interpretation of data. They should also consider
the effect of study on the setting and culture explored and how participants might react to a researcher’s presence (Brewer, 2000).

In the data generation phase, I planned to write my memos while I was interviewing the participants. I started doing so in the first interview; however, I found this very difficult. I found myself focusing on writing memos and I was not able to attend to the woman’s facial expression and the way she was articulating her story. At the same time, when the woman saw me writing in my diary, she asked me what exactly I was writing. Although I had explained the possibility of writing memos while interviewing them, the women seemed uncomfortable seeing me writing while they were talking. Writing memos while conducting an interview was not practical in my case. It distracted the participants and diverted me from observing their facial expressions and body language. Accordingly, I decided to stop writing memos during the interviews unless the participant mentioned a central point of the studied phenomenon that needed further exploration.

In interpreting and reacting to data, qualitative researchers could subject them to their own subjective experience and personal bias. This could influence the prioritisation of information, the emergent themes, and the presentation of the narratives (Ritchie et al., 2013). Reflexivity was continuously employed in this research to maintain the credibility of the research outcomes and to account for influences on the conduct of the research and interpretation of the data (Finlay, 2002). I kept a journal in which I thought reflexively about my previous personal and professional experience and preconceived assumptions, as those issues may have influenced how I viewed and perceived the women’s accounts during the research process (Rabe, 2003). My reflexive journals facilitated my conscious awareness of the possible bias I might have introduced as a researcher to the research findings (Roller, 2012). Accordingly, it was essential for me to provide explicit accounts of my personal and professional experience as well as my preconceived assumptions in the area of asthma and acknowledge their influence on the research process.

It was important to reflect on my experience of having a mother and sister who live with asthma. I was concerned that my assumptions about the experience of asthma would hinder the adequate exploration or acceptance of the participants’ views during data generation. I engaged in a self-conversation in which I wrote down thoughts, ideas, and questions that derived from my assumptions and values. Being reflexive on this issue helped me to realise the multiple identities I had (woman, nurse educator, daughter of a woman with asthma,
and a researcher) during the interviews. Acknowledging the existence and acceptance of contrary positions helped me to overcome personal assumptions (McNair et al., 2008).

In the qualitative field, researchers’ beliefs and views could influence the research process, including the data collection, analysis, and writing up of findings (Kuper et al., 2008). My experience, beliefs and knowledge underpin my preconceived assumptions of women’s experience living with asthma. Having the chance to take care of people with chronic illness during my professional experience as a nurse, witnessing women’s experience with asthma as a clinical instructor, and having a mother and sister who have asthma, I was aware of some of the challenges of women living with asthma. However, this did not lead me to presume to know the experience of all Omani women and I was convinced that the experience of these women needs exploration. This influenced my choice of research topic. However, I was not aware of which of my assumptions would influence my interpretation of the data. I was motivated to conduct this study because of my view that women might have a poor understanding of asthma and its treatment and might feel stigmatised for using an inhaler; I did not perceive the family and women’s duties to have a high level of influence. I also believed that women are adults and they decide how to manage their asthma. Although I supposed that women in the Omani culture should listen and respect their family opinions, this did not deny them their right to decide independently what treatment and which healthcare services to seek for their asthma. Considering these assumptions during the data collection and interpretation, it was important for me to be conscious of making a distinction between my voice and presumptions and the participants’ voices and their real experience.

In qualitative research, the researcher is the main instrument in data collection and analysis (Thornberg, 2012). At the beginning of this research, I explicitly detailed my professional experience and my understanding of asthma and its management. I also reflected on how the questions and theoretical propositions of this research were derived based on my experience and understanding of the literature. It was essential to orientate the participants with my clinical background (Caress et al., 2002b). The participant information sheets included a statement that this study is part of a PhD degree. I emphasised to the participants that I am a nurse educator who has no clinical background in asthma. I also made it clear to the participants that my understanding of asthma was general and that I had no direct working contact with patients with asthma during my short experience as a nurse. Thus, I lacked clear understanding of asthma management, policy and guidelines. This was aimed at preventing any influence of the researcher’s preconceptions on the flow
of the interviews and the data analysis. At the same time, I wanted to avoid being seen by the participants as a problem solver. It was not among my aims to impress the participants by solving their problems relating to asthma. However, at the same time, it was important to me to be ‘myself’ while interviewing the women, as I felt that was important to build a good relationship with the participants. Indeed, this strategy was helpful and facilitated my interaction with the participants.

Morse (1994) suggested that researchers’ backgrounds and social identities might influence their interpretation of the gathered data and the overall research context. Their professional experience and whether they are insiders or outsiders in the research setting are thought to influence the conduct of their research. Among the three settings used, I was familiar with only one (polyclinic 1), as it was where I used to take my nursing students for their clinical practice, including the asthma clinic. Being an insider facilitated the data collection process, as I was familiar with the setting and I had already established a rapport with the staff. At the same time, I was afraid of losing sensitivity because I was familiar with the situation in this research setting. In the other two settings, not knowing anybody helped me to become more active as a researcher; however, I had concerns regarding the facilitation of recruitment and data collection. I arranged a visit to these institutions before the data collection to familiarise myself with the environment and with the gatekeepers, whom I contacted before my visit. These visits and the discussion I had with the administrative staff and the doctors responsible facilitated the recruitment process and conduct of the study. These personnel provided me with the assistance I needed throughout the research process.

Charmaz (2014) argued that the researcher’s presence could influence the flow of an interview, which could affect the participant’s responses and, therefore, influence the overall process of data collection and analysis. I was advised by the hospital and the polyclinics managers to wear a white coat and to put on my MoH card or UOM student card. They suggested the clinic staff would then differentiate me as a non-patient. However, I did not want to appear different from the Omani women I interviewed. I decided to wear casual dress with a traditional abaya (a long over-garment worn by Omani women). In terms of differentiating myself, I put on my UOM student card to emphasise my presence as a PhD student and not a health professional. I wanted to reduce the sense of power differential between myself and the participants. Naemiratch and Manderson (2006) suggested that patients tend to have high respect for HCPs and that this idea is embedded
in Asian societies. As such, this was also expected to be the case in Oman. I tried to reduce this sense by maintaining a good rapport with the women.

During my initial visit to the three health institutions, the managers favoured conducting the interviews in the health institutions at the time of the participants’ follow-up visits. According to the managers, follow-up visits varied from two weeks to six months, depending on asthma severity. They expected that it would be difficult for the women to return between visits for an interview. As the clinics were busy, patients often had to wait for two to three hours to see their doctors. Interviewing participants during this waiting time could save participants time and increase recruitment. I arranged with the polyclinic managers and my supervisor at the tertiary hospital a place for an interview in case the women preferred to be interviewed in their own healthcare institutions. The interview room was closed and away from noise to ensure privacy, good-quality recording and to minimise disruption (Holloway and Wheeler, 1996). The culture in Oman does not encourage women (in this case the researcher) to enter the homes of non-family members alone. However, I was willing to accommodate the participants’ preferences regarding a convenient time and place. Potential conflicts between the participants’ values and the data collection procedures were considered (Charmaz, 2014). However, all the women preferred to be interviewed in their healthcare institutions, as the managers had anticipated.

Furthermore, I shared some similarities with the participants, such as culture, tradition, language, religion, gender and age. Such matching is considered acceptable in qualitative research as this is seen to strengthen the relationship between the researcher and the participants and reduce any sense of a power differential (Neill, 2006). Being orientated to the participants’ context helped me to fit adequately into the research setting. Sharing such similarities helped the participants to articulate their experience of living with asthma in a comfortable and relaxed manner. For instance, while talking about how asthma affected their roles as wives, mothers, and housewives, they often stated: “you are a woman, wife, and mother and I am sure you understand what I am saying” and “you know how I feel if something like that occurs to you”. Corbin and Strauss (2008) established that sharing the same culture as participants means that researchers will draw upon their experiences even though their experience is not similar to that of the participants. However, they will both share elements of their experiences.

Two of the participants were familiar with the researcher’s position as a clinical instructor. These two participants were nurses working in the same institution to which the researcher
took her nursing students for clinical practice. The researcher had previously worked with the two nurses in their hospital units. This might have had some effect on these participants’ accounts when providing their perspectives on their experience of living with asthma.

In terms of undertaking qualitative research and, in particular, grounded theory study, I was aware that this was my first time conducting research independently. To prepare myself for the data collection, I had taken a taught course on qualitative research at the UOM and attended a workshop on collecting qualitative data. I was mindful of the need to provide a comprehensive account of how I made the various decisions regarding how the research was to be conducted. I was aware of the tenets of constructivist grounded theory and I was conscious of holding my research to these tenets, which facilitated the emergence of concepts from the data, thus promoting rigour and reducing researcher bias. I also sustained the principle of having an interpretive perspective, which emphasises the notion of acknowledging subjective experience and the need for continuous dialogue between the researcher and the participants, as well as the researcher and the data, which would result in reconstructing and understanding the studied phenomenon (Charmaz, 2014).

Throughout the data collection and analysis process, I made sure that I articulated my perception of the studied phenomenon. This was done by reflecting on the thoughts, feelings and presumptions that I experienced after conducting the interviews. For instance, I kept in mind that older women (≥ 45) are more likely to be against the use of inhalers and that they believed that inhalers are bad for the brain. This assumption arose from my personal experience of having a mother with asthma, who is against using inhalers and believes that inhalers harm the brain. In one of the interviews, I met a woman who was 47 years old who complied fully with the use of her inhalers. She was fully convinced of her need to use the inhalers as prescribed. On the other hand, other younger participants were against using inhalers, thinking that they were harmful to their bodies. As a result, I continued to acknowledge the variations generated and how they influenced subsequent inquiries.

3.22 Summary

This chapter has demonstrated why constructivist grounded theory was an appropriate approach for this study. Grounded theory enabled the researcher to view the experience of women with asthma holistically. It also allowed the researcher to understand how the
women structured their understanding of asthma based on their experience within their social, cultural and religious context. Concurrent data collection and analysis, as well as writing memos, allowed the intended exploration and grounded the generated theory in the women’s accounts rather than the researcher’s preconceptions. This enabled the researcher to construct the overall experience of the women’s experience. This chapter also outlined how the study was conducted in a manner that was consistent with the chosen approach, in a way that was rigorous and ethically sound.

The socio-demographic characteristics of the sample are considered in the next chapter.
CHAPTER FOUR
SOCIO-DEMOGRAPHIC CHARACTERISTICS
OF THE STUDY SAMPLE
CHAPTER FOUR:
SOCIO-DEMOGRAPHIC CHARACTERISTICS
OF THE STUDY SAMPLE

4.1 Introduction
This chapter provides an overview of the sample that participated in this study and describes the socio-demographic characteristics of the participants.

4.2 Study sample
Of the 35 women who were invited to participate in the study, six declined. The most frequent reason women gave was family commitments. A total of 29 Omani women participated in this study over an eight-month period between December 2015 and July 2016. The duration of the in-depth interviews ranged from 50 to 70 minutes. Seventeen women showed willingness to be contacted for a follow-up interview if needed and provided their mobile number for the researcher. However, they made it clear that their follow-up interview should be either through a telephone call or during a future appointment at the hospital. The researcher needed to re-contact only a few of the participants and all the follow-up interviews were conducted over the telephone.

The participants were recruited from three health institutions: two polyclinics and one tertiary hospital. One polyclinic is located in a regional area and the second polyclinic and the hospital are in the capital city of Muscat (see Table 4.1).

Table 4.1: Recruitment details

<table>
<thead>
<tr>
<th>Settings</th>
<th>Number of participants (N=29)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tertiary institution</td>
<td>13</td>
</tr>
<tr>
<td>Primary institutions</td>
<td>16</td>
</tr>
</tbody>
</table>

Most of the participants recruited from the institutions in the capital city resided in various regions of Oman. Only five participants lived in the capital city itself. Table 4.2 shows the number of women from each governorate.
Table 4.2: Women’s geographical area of residence (by governorate)

<table>
<thead>
<tr>
<th>Geographical area</th>
<th>Muscat</th>
<th>North Batinah</th>
<th>South Batinah</th>
<th>Dhofar</th>
<th>Al Sharqiyah South</th>
</tr>
</thead>
<tbody>
<tr>
<td>N=29(%)</td>
<td>5(17.24%)</td>
<td>5(17.24%)</td>
<td>15(51.72%)</td>
<td>3(10.34%)</td>
<td>1(3.44%)</td>
</tr>
</tbody>
</table>

The fact that one site is a tertiary hospital that receives referral cases from all over the country could provide some explanation for these data.

### 4.3 Socio-demographic characteristics of the participants

#### 4.3.1 Age

The women’s ages ranged from 18-54 at the time of interview. Twenty-two women were aged between 26 and 45, with only one participant over the age of 50. The age of the participants mirrored the age profile of Omani society, in which 62% of the population is between the ages of 15 and 64 (NCSI, 2014). Table 4.3 shows the distribution of the women’s ages.

Table 4.3: Distribution of women’s ages

<table>
<thead>
<tr>
<th>Age in years</th>
<th>18-25</th>
<th>26-35</th>
<th>36-45</th>
<th>46-55</th>
<th>56-60</th>
</tr>
</thead>
<tbody>
<tr>
<td>N=29(%)</td>
<td>3(10.34%)</td>
<td>11(37.93%)</td>
<td>11(37.93%)</td>
<td>3(10.34%)</td>
<td>1(3.44%)</td>
</tr>
</tbody>
</table>

#### 4.3.2 Education level

As shown in Table 4.4, the majority of women (n=21) had completed university (41%) and secondary education (31%). The lowest level of education was primary school (n=5). Of the 29 participants, three women did not have any formal education; however, they could read and write, albeit with some difficulty. The latter group were among the women who reported accepting asthma, using the treatment and attending government health services regularly since the time of their diagnosis.

Table 4.4: Women’s level of education

<table>
<thead>
<tr>
<th>Education</th>
<th>University</th>
<th>Secondary</th>
<th>Primary</th>
<th>Can read and write</th>
</tr>
</thead>
<tbody>
<tr>
<td>N=29(%)</td>
<td>12(41.38%)</td>
<td>9 (31.03%)</td>
<td>5(17.24%)</td>
<td>3(10.34%)</td>
</tr>
</tbody>
</table>

4.3.3 Marital status
The majority of the women were married (n=23). Of the five single women, one was widowed (the eldest participant in the study). Three women among the married group specifically reported infertility, while the rest had one or more children (n=20).

4.3.4 Employment status
Less than 50% of the women were employed (n=11). About half were housewives and did not work outside the home and did not undertake paid work (n=13); a few were unemployed and unmarried (n=2); and some were unmarried college students (n=2). All the women who were not employed depended on their family members (housewives depended on their husband and the single women on their parents) for financial issues. One woman (widowed) was retired and received a pension salary. No significant difference was found between the employed and non-employed women with regard to their utilisation of private healthcare services (see Table 4.5).
4.3.5 Family history

Almost 50% of the participants had a positive family history of asthma. Table 4.6 details the family history of the women in this study. Similar findings with regard to family history were seen in a previous quantitative study, which aimed to analyse the characteristics of asthmatic patients who attended a specialist clinic in a tertiary healthcare institution (Al-Rawas et al., 2009b).
A cross-sectional survey conducted in Qatar, a neighbouring country which has similar consanguinity marriage prevalence to Oman, investigated the association between asthma in schoolchildren with the allergic conditions of their parents. Of the total number of children in that survey, 35% were found to have either a father or mother with asthma (Bener and Janahi, 2005). Moreover, in the current study, eight women had a family member with another chronic illness, mostly diabetes and hypertension. Family environmental and parental illness experiences have been found to shape people’s perception of illness (Kirmayer and Looper, 2006). Having a family member or relative with chronic illness might have helped shape the experience of the women in the current study.

### 4.4 Clinical characteristics of the participants

All the women recruited to this study were diagnosed with asthma without any other comorbid disease. Table 4.7 provides the clinical characteristics of asthma severity, control level and asthma duration. Severity was identified, with the participants’ permission, from their medical records. The degree of severity was determined according to the level of symptoms, airflow limitation and lung function. Moreover, severity is also based on the level of control achieved with treatment (Oman Respiratory Society and Oman FAMCO Society, 2009). MoH asthma guidelines provide a clear set of characteristics for each level of control. The guidelines also provide a validated questionnaire, such as the Asthma Control Test, to help HCPs assess asthma control (Oman Respiratory Society and Oman FAMCO Society, 2009).

<table>
<thead>
<tr>
<th>Demographic characteristics</th>
<th>Number of participants (N=29)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Has relative with asthma</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>14</td>
</tr>
<tr>
<td>No</td>
<td>15</td>
</tr>
<tr>
<td>Has relative/friend with other chronic illness</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>8</td>
</tr>
<tr>
<td>No</td>
<td>19</td>
</tr>
<tr>
<td>Unknown</td>
<td>2</td>
</tr>
</tbody>
</table>
Table 4.7: Clinical characteristics of the participants

<table>
<thead>
<tr>
<th>Clinical characteristics</th>
<th>Number of participants</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Asthma severity</strong></td>
<td></td>
</tr>
<tr>
<td>Intermittent</td>
<td>1</td>
</tr>
<tr>
<td>Mild persistent</td>
<td>6</td>
</tr>
<tr>
<td>Moderate persistent</td>
<td>13</td>
</tr>
<tr>
<td>Severe</td>
<td>9</td>
</tr>
<tr>
<td><strong>Self-reported illness duration</strong></td>
<td></td>
</tr>
<tr>
<td>1-5 years</td>
<td>6</td>
</tr>
<tr>
<td>6-10 years</td>
<td>10</td>
</tr>
<tr>
<td>&gt; 10 years (of whom n=5 indicated ‘Since birth’)</td>
<td>13</td>
</tr>
<tr>
<td><strong>Diagnosed with asthma during pregnancy</strong></td>
<td>7</td>
</tr>
<tr>
<td><strong>Level of control</strong></td>
<td></td>
</tr>
<tr>
<td>Controlled</td>
<td>13</td>
</tr>
<tr>
<td>Partly controlled</td>
<td>11</td>
</tr>
<tr>
<td>Uncontrolled</td>
<td>5</td>
</tr>
<tr>
<td><strong>Visited the emergency department at least once during the last one year</strong></td>
<td>17</td>
</tr>
</tbody>
</table>

The majority of the women had been diagnosed with moderate persistent to severe asthma. More than one third (n=13) had been diagnosed with asthma for more than 10 years, and five of these had had it since birth. The rest had had asthma for 2-10 years, with only one woman having had it for two years. The duration of their asthma indicates that the women had a relatively adequate experience with asthma.

The level of control was found to be relatively low, with most women in the partly controlled or uncontrolled asthma groups, which was assessed according to the guidelines for asthma management followed in the health institutions.

Moreover, the self-reported rate of emergency visits by the women is noteworthy. While a previous survey in Oman (Al-Rawas et al., 2009b) reported that 31.9% of its patients reported attending for emergency visits at least once in the previous one year, in the current study, this was almost 60%. A possible explanation for the difference may be that female patients made up only 72% of Al-Rawas et al. (2009b) study. There is known to be a
higher prevalence of asthma, and particularly of severe asthma, among women compared with men, which is thought to be due to a combination of biological, sociocultural and environmental factors (Becklake and Kauffmann, 1999; Ostrom, 2006; Melgert et al., 2007).

4.5 Summary

This chapter described the socio-demographic and clinical characteristics of the women recruited to this study. The sample represents diversity in the women’s social backgrounds, including the geographical area in which they live, socioeconomic status, age, level of education, and duration of illness. All the women except one were relatively young adults (younger than 50), with the majority having a high school education or above. Most of the women were married and had one or more children. The sample also contained women with different levels of asthma severity, the majority having either moderate persistent or severe asthma. Around half the women were housewives who were not employed. Almost half reported a family history of asthma.

The following four chapters present each of the categories that emerged from the research.
CHAPTER FIVE
MAKING SENSE OF ILLNESS
CHAPTER FIVE:  
MAKING SENSE OF ILLNESS

5.1 Introduction
This chapter, the first of four findings chapters, presents the findings from the first category identified: “Making sense of illness”. The four findings chapters discuss the emergent relationships between the key categories. My memos and participants’ quotations informed the emerging categories and are linked to the relevant literature.

The four main interrelated categories to emerge from the data analysis are as follows: 1) making sense of illness; 2) how asthma disrupts women’s lives; 3) women’s decisions in managing asthma; and 4) women’s choice of healthcare services. These are presented in chapters five, six, seven and eight, respectively. The four categories provide understanding of the women’s experiences of living with asthma in Oman. They also reveal the sociocultural influences that shaped the women's experiences.

In making sense of their illness, women identified various religious and cultural beliefs. These beliefs mediated their individual experience of the condition. In chapter five, the women’s narratives indicated that, for some of them, asthma was present every day, while for others it was not. Moreover, some recognised it as a long-term condition, but many of them did not. Consequently, most of the women’s daily lives were interrupted by the condition, which presented a challenge to them and threatened their identity as women (see chapter six). Chapters six, seven and eight present the women’s reports of their feelings of being under social pressure to prioritise their roles as women over and above their condition. They also felt concern about how their condition affected how others perceived them. The family played a significant role in how women made sense of asthma and its treatment, as well as how they incorporated the condition into their everyday lives.

5.2 Category one: Making sense of illness
This section presents the first category identified in this study: “Making sense of illness”. From this key category, five sub-categories emerged (see Figure 5.1) that represent how the women in this study constructed their understanding of asthma. They also highlight how the women’s previous assumptions and their current experience of asthma shaped their meaning of asthma.
Figure 5.1: Category one: Making sense of illness

5.2.1 Reacting to the diagnosis

When asking the women about how they felt about having asthma, most of them started their discussion with their perception of asthma at the time of diagnosis. Several women described the memory of the diagnosis as still being crystal clear in their minds. They vividly recalled their reactions and feelings at the moment of diagnosis.

“I will never forget that day.” (Rahma, P)

However, five women diagnosed with asthma since birth denied remembering the moment of their diagnosis:

“I can’t recall this moment, sorry.” (Thuriya, P)

Three types of reaction to asthma diagnosis emerged: “accepting asthma”, “accepting asthma but not wanting to believe it”, and “denying asthma”.

Less than half the women (n=12) described accepting asthma (one had mild, eight had moderate, while the other three had severe asthma).
Having faith that illness is from Allah characterised almost all the women’s stories in this group. They expressed the notion of illness as a test from Allah of their patience. They saw it as a reason for atoning for their sins, which might facilitate their entrance into Heaven:

“Allah is the one who gave us the life. We must accept whatever Allah gave.” (Maymoona, P)

These religious beliefs were given by the women to explain their acceptance of the illness. A belief in fatalism is strong, accepted and found to be significant in the religion of Islam and people who are Muslims expect such a reaction. However, fatalism was not a single isolated explanation given by the women in rationalising their response to asthma. They saw it in conjunction with other elements, as will be shown throughout the discussion of this sub-category.

For instance, the above account was from an interview with the oldest woman recruited in this study. Maymoona was diagnosed with moderate asthma. She was retired, widowed and her children were adults. She viewed the doctor as an expert. As she reported, she complied with the treatment from day one of her diagnosis. She reported her rare experience of asthma attacks. In her case, the age of diagnosis, seeing the doctor as an expert, and rarely experiencing asthma attacks were reasons in addition to an attitude of fatalism that contributed to her acceptance of asthma. Including Maymoona, a few of the women associated their acceptance of asthma with their trust in their doctor’s expertise.

“Doctors know better than us.” (Naeema, P)

Having information about asthma or knowing somebody with asthma was a common reason for acceptance of asthma in this group. Eight women in this group had either a relative or a friend with asthma or another chronic illness. Despite their different levels of asthma severity and control, all reported that having a relative or friend with asthma or even with another chronic illness helped them to accept their diagnosis of asthma. More importantly, they reported that the positive nature of the experience of their relatives or friends influenced their reaction to their diagnosis and meaning of asthma.

“My mother has asthma, and my father has diabetes. I could see how things in their lives had changed to adapt to their diseases. So, it was OK for me to have asthma.” (Khawther, T)

Conversely, a few women explained their acceptance by having no information about asthma, not being aware of the serious problems that asthma might cause, and not knowing anybody with asthma.
“I did not know what asthma is and I never knew anybody with asthma.” (Ahlam, T)

Many women in the above two groups thought of asthma as a self-limiting condition that might resolve itself. Their acceptance might reflect their perception of asthma as an illness that could not have harmful effects on their health.

Although the women verbalised their acceptance of asthma, their discussion revealed some conflicting feelings. They gave a sense that knowing nothing about asthma could be taken as a way of not troubling themselves with something that could appear to be unpleasant. As one of them stated when I probed the reasons for the lack of information:

“Sometimes it is better not to know.” (Zaynab, P)

The lack of interest in knowing about asthma could hint at a sense of denial of their asthma. It could also convey their worry about knowing something that might potentially hurt them.

A few women explained their acceptance by their pre-diagnosis experience and the timing of the diagnosis. They considered it as the end of their journey of suffering from an unknown illness. They mentioned that receiving a definitive diagnosis and knowing what to fight against was a relief for them. The negative pre-diagnosis experience of two women smoothed their reaction and acceptance of an asthma diagnosis.

“I suffered a lot before diagnosis. Knowing the problem and knowing that there is treatment available for it was enough for me to feel relieved.” (Sheikha, T)

The time of diagnosis was vital for Ameera, who experienced asthma symptoms during the time of bird flu. Being afraid of getting diagnosed with a dangerous disease such as bird flu facilitated her acceptance of asthma. She was pregnant at the time, which could also have influenced her reaction. In comparison with bird flu, Ameera stated that she and her family viewed asthma as being less dangerous:

“I felt relieved… Asthma is better than bird flu.” (Ameera, T)

A few women described how the approach and response of the healthcare team to them during the diagnosis moment facilitated their acceptance:

“The nurse spoke to me and she told me that she is available if I have questions about asthma. I felt supported and got relaxed.” (Siham, P)

The women considered various religious and social reasons for accepting asthma. The next part shows how these influences also shaped the reaction of the next group of women.
More than half the women in this study reported accepting the diagnosis of asthma but did not want to believe it:

“The did not want to believe that I have asthma.” (Aneesa, P)

Although the women in this group had the same belief that Allah gave the illness, they wished they did not have it. The way the women in the first group and this group formed their reaction to asthma within their social circumstances revealed their health beliefs. They grounded their response partially in their health beliefs and used their religion to rationalise their response to their illness.

In contrast with the previous group, knowing somebody with asthma or with another chronic illness appeared to have a negative influence on the women’s reaction to their illness. The majority discussed how the negative experience of the known relative or friend shaped their reaction to asthma. They expressed their fear of suffering because of asthma. Twelve women in this group had either a relative or friend with asthma or another chronic illness. Moza’s response is typical of that of several of the women:

“I had a colleague who had asthma and was admitted several times to a critical unit. We share similar characters, like having the same job and having a sibling with asthma. I was afraid that my asthma would be like his.” (Moza, T)

It is interesting how the women drew parallels across various aspects of their and their colleagues’ or family members’ lives. They made sense of their illness by seeing the shared aspects of their and others’ experience.

The majority of the women expressed the view that having information about asthma in the time before their diagnosis contributed to their disbelief regarding having asthma. They attributed their reluctance to their understanding that asthma is a chronic illness and that it requires long-term treatment.

“It means I will have it forever and be in treatment for a long time.” (Aseela, T)

A few women in this group demonstrated their lack of understanding of asthma. They did not expect the diagnosis of asthma. They also had a misperception that asthma happens to children and the elderly but not to young people. They stated that they got this belief from their families. It appeared that having an elderly person or a child with asthma within their family supported the women’s misperception of asthma. These two young women described their shock at receiving a diagnosis of asthma:
“I am young, how could asthma happen to me? My grandparents had asthma. But they were all old.” (Wafa, P)

“In my area all who have asthma were either old or children. I was shocked.” (Halima, P)

One participant viewed asthma, at the time of diagnosis, as something that weakens the body and takes control of it. Nawal attributed her reaction to the severe asthma cases she saw in the hospital:

“If I accepted asthma in my life, it will take over my life and control it. I saw many women with severe asthma. They looked helpless.” (Nawal, P)

The women gave several explanations for their disbelief in their asthma diagnosis. In most cases, they attributed their disbelief to a combination of influences. For example, the kind of information and understanding they held about asthma shaped their reaction to it. The negative experiences of the people they knew with asthma and the information, beliefs and perceptions the women encountered in their community moulded their responses to the diagnosis of asthma.

Despite their unwillingness to believe, most of the women, except one, demonstrated their eventual acceptance of their asthma diagnosis. The “denying asthma” sub-theme came only from one participant, yet it is worth mentioning. This participant’s attitude of denial negatively affected her ability to manage her asthma. After being informed that she had asthma, Rahma stopped attending the follow-up visits at the asthma clinic. She believed that attending the follow-up visits would convince her doctor that she had asthma. According to Rahma, she did not attend the visits for a year. Although she had mild asthma, she stated that she experienced frequent asthma attacks because of not taking asthma treatment:

“For a year I did not attend the asthma clinic. I refused even to talk about asthma.” (Rahma, P)

When trying to explore her reason for denying her asthma diagnosis, I found that her misperception about asthma being an infectious disease determined her initial reaction:

“I thought asthma is an infectious disease.” (Rahma, P)

I probed Rahma more on the source of such information about asthma. She believed that the symptoms of asthma, especially coughing with secretion, seemed closer to other infectious respiratory diseases, and specifically tuberculosis. She had known somebody with tuberculosis and, because of the coughing symptoms, she equated asthma with
tuberculosis:

“Before diagnosis I visited a lady who had tuberculosis. She was continuously coughing with secretion. Two weeks later, I got a cough.” (Rahma, P)

Rahma reported that her concern was not for herself but was about giving or transmitting the perceived infectious disease to her family:

“I could not imagine myself giving my family an infectious disease.” (Rahma, P)

The women in this study demonstrated various reactions and levels of acceptance of an asthma diagnosis. Although most of the women stated they accepted asthma, they often expressed their anger and denial by saying something like “I wish I did not have asthma”. Thus, they had conflicting emotions about both acceptance and non-acceptance. They considered the various influences on their first impression of asthma and regarded them like a coin with two faces, each having the possibility to both hinder and facilitate the acceptance of asthma.

This sub-category illustrates the women’s understanding of asthma and how this affected their reaction at the time of diagnosis. How society in general and their significant others in particular defined asthma and how much their context was aware of asthma shaped their reaction to the diagnosis of asthma. Next, I explore how the women’s view of their asthma evolved after living with the condition.

5.2.2 Suffering the threatening moment: asthma attack

Twenty-three women in this study were diagnosed with moderate to severe asthma and 16 of them had either partly controlled or uncontrolled asthma. This group described experiencing more frequent asthma attacks. One third stated that they accepted asthma; however, most of them suggested that their acceptance of the diagnosis of asthma changed after experiencing a severe attack. They discussed their underestimation of asthma at the time of diagnosis.

“Diagnosis is something and experiencing a real asthma attack is something else.” (Afrah, T)

The women described how their personal, cultural and social influences shaped their underestimation or overestimation of their asthma. They summarised the sources of such perceptions into three sociocultural aspects: the information they received about asthma from others; the beliefs relating to asthma in their community; and the kind of trust in which they held those who gave them the information. “Being young” was one explanation they gave for their belief.
“I am young; I expected that my asthma attacks would be less in severity and frequency than my mother’s attacks.” (Azza, T)

“One of the old people in my area who knows about the health and disease assured me that asthma does not come severe at my age.” (Nawal, P)

The women’s and their families’ lack of understanding of asthma played a part in shaping their views of asthma and its attacks:

“After experiencing the attacks, I realised what asthma means really.” (Salwa, P)

“My family told me asthma is a small issue and it is not dangerous. They were wrong.” (Souad, P)

“My mother’s perception of asthma as a dangerous illness caused me to fear asthma. However, I do not get severe attacks, and my asthma is manageable.” (Noor, T)

Among the women who accepted asthma during the moment of diagnosis, those who had a relative or friend with asthma assumed that their asthma status would be the same as that of the other person. However, they reported that this assumption changed when they faced the threatening experience of an asthma attack and started to see the difference. They discussed their re-evaluation of asthma and the realisation that they could have underestimated or overestimated it:

“I thought my asthma would be like my mother’s asthma. I thought of it as a minor issue; I was wrong.” (Halima, P)

“I thought my asthma would be severe like my colleague’s, but I was wrong.” (Moza, T)

The women labelled asthma attacks in negative terms. They mentioned terms such as “war”, “unwanted visitor”, “horrible dream”, and “bad asthma”.

“I am in a war. I have to fight it to get my breath back and to continue my life.” (Wafa, P)

“It is my war. Nobody can help.” (Afrah, T)

The women labelled their fight with asthma using army metaphors, such as it being a “war”. They expressed a feeling of being in a war they had to fight against themselves. Many said that despite their family’s support, they were aware that nobody could help them when they were experiencing an asthma attack.

For some, this view came from their personal experience, while for others it came from the experience of relatives who used to get frequent and severe asthma attacks.
“When my mother was experiencing her asthma attacks, we could not help her. She fights them alone.” (Halima, P)

Overall, most of the women described their experience with an asthma attack as hectic. Not wishing such a terrible experience even on an enemy suggested their difficult experience with asthma attacks.

“It is a hectic life. I never wish anybody; even my enemy, to live such a frustrated life.” (Abeer, T)

Whatever the differences in the women’s reactions at the moment of diagnosis, most of them shared the same reactions and feelings regarding asthma attack. For most, the experience of a severe asthma attack compelled them to re-evaluate their understanding of the meaning of asthma.

The previous discussion narrated the image of a personal war that suggested the women fighting their illness. The discussion now moves to the women’s perceptions of the chronicity and danger of asthma.

5.2.3 Debating the chronicity and danger of asthma

This sub-category emerged when I asked the women what asthma meant to them. They mentioned two issues related to how they perceived the meaning of asthma: the first was the extent to which they thought of asthma as a chronic illness; the second was the extent to which they thought it was dangerous and life-threatening.

Although most of the participants mentioned that their doctor told them that asthma is chronic, only four were convinced of this at the time of the diagnosis, which was associated with their confidence in their doctor’s expertise. It is noteworthy that the four women who believed in the chronicity of asthma from the time of their diagnosis were the oldest participants in the study, two of whom have severe asthma.

Aseela articulated the view of the women in this group who believed that asthma is a chronic illness:

“It is like my shadow that sometimes gets clear, and other times disappears. Nevertheless, I know that it will always be there.” (Aseela, T)

The phrase “my shadow” reflects the women’s understanding of the chronicity of asthma and their perception of the nature of asthma symptoms. It is noteworthy that the literacy level of the women in this group was low in comparison with the rest of the participants. Two of them could barely write their names, while the others had only an elementary level
of study. Their age and educational level could provide possible explanations for their deference to their doctor’s expertise. The low educational level could explain their lack of information about the illness and their consideration of the doctor as the main source of information. They also suggested that the treatment prescribed by their doctor was effective, which could strengthen their deference towards their doctors.

“The doctor told me that asthma is chronic. She gave me good treatment.”
(Maymoona, P)

Experiencing asthma for a long time emphasised the permanent status of asthma. Around half the women believed that their asthma was chronic after their personal experience with it; however, they reported their wish that it was not so. Seventeen women in this study had had asthma for more than five years, and five had had it since birth.

“I got it for nine years; it did not go away.” (Ameera, T)

Several women understood the chronicity of asthma based on their assumptions about its relationship with age. While a few women believed that asthma becomes chronic only during adulthood, several were of the belief that it was only chronic in old people. The latter group attributed their perception to their belief that old people usually have a ‘weak body’ and ‘low immunity’ in comparison with themselves, who were young.

“Asthma happened to me when I am old, and it will never go. My younger brother had it when he was a child, and he does not have it anymore.”
(Afrah, T)

“My grandfather, and my nephew has asthma for years, even before me, and their asthma did not go.” (Ameera, T)

“Maybe it will be chronic in old people but not with young. Old people have a weak body, low immunity and might not get benefit from the treatment. Our body can tolerate more, and we might use and try various treatments.” (Wafa, P)

In addition to the years of experience with asthma and their assumptions about age and illness, most of the women considered the intermittent nature of asthma symptoms in perceiving the chronicity of the condition. The group of women who had intermittent symptoms interpreted asthma as an intermittent illness.

“My asthma is not chronic. For months I did not experience an asthma attack.”
(Siham, P)

For the same reason, several women expressed their confusion at the similarities between the symptoms of asthma and those of other conditions, such as allergies and the common cold, as they all come with intermittent symptoms:
“For six months I did not experience asthma symptoms. It is a type of common cold only. I do not see any difference.” (Khawla, T)

The confusion presented by the women in the above group might indicate a lack of understanding of asthma. It could also reflect the type and amount of information they received. The women who viewed asthma as an intermittent condition mostly had mild or moderate asthma. As highlighted at the beginning of this section, many held this belief despite their doctor having told them asthma is chronic.

A few women who were pregnant at the time of the interview believed that asthma during pregnancy would, like diabetes during pregnancy, go after the birth of the child. They suggested that this was a cultural belief they had acquired from their grandmothers. It is noteworthy that all of them were in their first pregnancy and none experienced frequent asthma attacks:

“It is like diabetes that comes during pregnancy and then goes after childbirth, my grandmother told me this.” (Khawther, T)

Similar to their perception of the chronicity of asthma, the women presented various perceptions of its dangers. It was interesting to discover that only some of the women who believed that asthma was a chronic illness perceived it as dangerous. This was despite their reports of having experienced frequent and severe asthma attacks. Moreover, almost half the women in this group were diagnosed with severe asthma, while the rest had either mild or moderate asthma.

Several women constructed their perception of asthma as dangerous in comparison with other illnesses that they perceived to be worse or more dangerous than asthma, such as cancer and renal failure:

“Asthma is not dangerous. Praise is to Allah that I have asthma, not cancer.” (Sharifa, T)

“One of my relatives has renal failure. Praise is to Allah; asthma is not dangerous like renal failure.” (Nawal, P)

The women who did not view asthma as dangerous suggested that their perception came from knowing people with specific conditions, such as cancer and renal failure, within their social network. Apparently, in constructing their perception of asthma, they drew comparisons of their suffering with that of other people who were perceived to have a more severe illness. More specifically, they drew comparisons of the impact of asthma on their lives in general and their duties in particular with those women who had another disease perceived as being more dangerous. The comparison seemed to strengthen their
perception of asthma having less impact on their own lives.

In making their judgements about the dangers of asthma, several women compared their cases of asthma with other conditions. They based their comparison on the severity of the symptoms, the frequency of asthma attacks, and the time and length of hospitalisation. They drew comparisons to prove to themselves that their asthma condition was better than that of many others, while others used it to strengthen their belief in not having asthma:

“I have an allergy, not asthma. I know a woman with asthma, who loses consciousness when she gets an asthma attack and another who spent most of her life in the hospital.” (Zakiya, P)

It is apparent that all the thoughts the women had about the meaning of asthma were constructed through their interactions with others in their social group and thus were influenced by their social context. Interestingly, the women did not make any mention of involvement of nurses in shaping their understanding of asthma.

Women in this study used a comparison strategy for multiple purposes. In the above cases in this section, women compared themselves with others who were in a worse situation than themselves and with those who were in another age group, such as children and the elderly. First, they wanted to evaluate their position in comparison with others. At the same time, comparing themselves with those whose condition was worse helped them to reduce their negative feelings about their own illness and so evaluate themselves as being in a better position.

Although the majority did not perceive asthma as dangerous, they did define it as tiring:

“Asthma is a tiring illness.” (Sharifa, T)

The women attributed their definition of asthma to the difficult time they faced while experiencing an asthma attack.

“Asthma attacks are tiring me physically and emotionally.” (Afrah, T)

Although the majority of the women did not perceive the milder day-to-day symptoms as dangerous, they did recognise asthma attacks as a danger that threatened their lives. Most of them considered the unpredictable onset of an asthma attack in regarding asthma as severe and dangerous:

“Asthma attacks sometimes come suddenly without any signals.” (Wafa, P)

“Asthma is a deceiving illness. It is hard to know when what symptoms I get, whether I get mild symptoms or an asthma attack.” (Azza, T)
“It is like an unwelcome visitor who comes without any invitation all of a sudden.”
(Ahlam, T)

“A deceiving illness” and “an unwelcome visitor” were labels used by some women in describing their asthma attacks. The unpredictability of the onset and level of severity of an asthma attack was the reason behind these terms. They referred to asthma as “a deceiving illness” because of the difficulty in predicting the occurrence of attacks, the nature of the symptoms, and the potential impact.

In constructing their understanding of the danger of asthma, many women considered the frequency and severity of their asthma attacks. They also counted the frequency and duration of their hospital admissions.

“Asthma is chronic and dangerous. I experience severe attacks and frequent admissions.” (Moza, T)

They also considered the nature of the symptoms in shaping their views of the dangers of asthma. Severe breathing difficulty, chest heaviness and wheezing were significant symptoms of asthma that most frightened the participants:

“An asthma attack is dangerous because it attacks the most important thing; the breathing. Without being able to breathe, how can life be? It is a sign of death.”
(Salwa, P)

“A bad asthma attack” was a typical description given by many women when they described an asthma attack that did not respond to treatment and was not relieved by rest:

“I call it bad asthma because it does not get better with rest and medicine.”
(Rahma, P)

The women in this study constructed their various meanings of asthma around personal experience and that of the people around them. They displayed various understandings of asthma. They brought together different aspects of their experiences to build an explanatory model of their illness. They were actively drawing different aspects of their experience about their social context and piecing them together to make sense of their experience of asthma. Throughout the previous sections, the women narrated their journey in constructing their understanding of asthma and its attacks. Social, cultural and religious influences shaped the women’s explanatory models of asthma chronicity and danger.
5.2.4 Ambiguities regarding asthma causes

All the participants showed uncertainty about the causes of asthma. Almost half believed that asthma might be hereditary. It is noteworthy that all but one of these participants who had this view had one or more family members with asthma.

“My grandparents and my father have it. That’s why I got it.” (Wafa, P)

Moreover, most of the women described themselves as vulnerable candidates for asthma. The women related this view to the similar characteristics they shared with relatives who had asthma, especially their mother and grandmother:

“My mother and I shared many characteristics. We do not tolerate strong smells; get easily irritated with things, and we experience common cold often.” (Khawther, T)

Among this group, a few women thought that they had asthma because they were women, which they linked to having family members with asthma who are all women:

“In my family, only women have asthma.” (Halima, P)

However, when I probed viewing asthma as a woman’s illness, most of the participants did not believe asthma was an illness only women have. For example:

“Asthma is not a particular woman disease.” (Aseela, T)

This view could have an impact on the women’s perception of preferring a male or female physician to manage their asthma. Chapter eight (section 8.8) discusses this issue.

One woman who thought of asthma as being hereditary believed that she had given asthma to her son; however, she conveyed her confusion that no other member of her family had asthma:

“My son got asthma because I have it. However, my parents do not have asthma. I do not know why I got it.” (Naeema, P)

Most of the women attributed their doubt regarding the cause of asthma to their doctors not being able to give them the exact reason for their asthma:

“The doctor himself said that the exact cause of asthma is not known.” (Nawal, P)

A minority of women reported that they had tried to find information related to the cause of asthma from family members and from the internet; however, they could not find an answer to this specific question:
“I asked my doctor, and searched the internet; however, I didn’t find anything about the cause.” (Ahlam, T)

Why they had asthma seemed an urgent and concerning question for many women in this study. A medical understanding of what asthma is, how it develops, and its risk factors did not answer the women’s question of “Why me?” This unanswered query seemed to leave many women in a world of uncertainty; at the same time, it seemed to convince others of the hereditary nature of asthma.

The women’s perception of the causes of asthma was shaped by the information they had within their social context. The number of relatives who had asthma, the relation degree and the gender of those relatives influenced their perception of the causes of asthma. The effectiveness of the health education they received from their healthcare team also shaped their understanding. Women highlighted that their opinions regarding asthma causes shaped their meaning of asthma, which could have an influence on their opinion of the required management of the condition.

In contrast with their doubts about the cause of asthma, the majority of the women appeared to be more familiar with the various factors they perceived as provoking their asthma. The following section illustrates women’s descriptions of the factors they perceived as having an impact on their asthma and made their life difficult.

5.2.5 Encountering asthma provocations in women’s daily life

The women in this study identified several types of irritant. Above all, they expressed a belief that indoor household allergens were more critical than outdoor allergens in triggering their asthma. That half the women in this study were housewives who did not have a job outside the home might provide a partial explanation for this finding. Information relating to the estimated time women spent inside their homes was not collected. However, the comment “I spend most of the time inside the house” was made by almost all the housewife participants. It articulated the view of many women about the types of irritant they encountered in their homes and the amount of time they spend indoors. The scarcity of places of entertainment available for women (see Appendix 1) could provide a partial explanation of the findings of this study that are related to the women’s high perception of indoor environmental triggers and their difficulty in avoiding them.

The majority of the women stated that many of their household duties triggered their asthma symptoms, which limited the performance of these tasks. The triggers included
strong smells, such as cooking odours, detergents, cleaners, the smell of new clothes, new furniture, perfumes, air fresheners, and skin lotion.

“When I clean, cook, do a heavy activity, or do bakhour I get asthma symptoms.” (Khawla, T)

“The smell of cooking, the soap of dishes and clothes irritate me and cause me breathing problems.” (Wafa, P)

Among household irritants, most of the women mentioned the strong smell of bakhour:

“When I do bakhour, especially the strong type, I get my asthma symptoms.” (Khawther, T)

While many of the women considered that bakhour irritated their asthma symptoms, they viewed frankincense differently. Frankincense/olibanum is a resin harvested from trees of the Boswellia genus. In Oman, it is known as loban. Traditionally, it has been used in religious rituals and for its aroma (Ernst, 2008). All the women in this study suggested that they did not experience any problems when burning frankincense.

“Frankincense does not irritate my chest. However, I do not put much, to reduce the amount of smoke.” (Naeema, P)

The above views presented by the women on the different types of incense indicate the need for further studies on the types and ingredients of incense. This requirement has been highlighted previously (Wahab and Mostafa, 2007).

More than half the women suggested that indoor irritants were challenging to avoid, either because they were part of their duties as mothers and wives, such as cooking, or they were part of their cultural tradition, such as the use of bakhour.

“I cannot avoid them. I have to cook for my family.” (Munira, P)

“These are my duties and part of my life...they are unavoidable.” (Zaynab, P)

Another set of perceived irritants was related to the outdoor environment. Several women reported that they lived in places that were in or near farms. They recognised several items they perceived as irritating their asthma within their living environment, which included outdoor smoke, a change in the climate (extreme heat, cold, and humidity), trees, pollinating flowers, farms, dust and animal dung.

“You know the hot climate of our country, we can’t avoid this.” (Sharifa, T)

“My house is on the family farm. The animals’ smell irritates my chest.” (Halima, P)
Another environmental trigger women perceived as making their asthma difficult was crowds. Many women expressed their reluctance to attend social gatherings to avoid crowds:

“You know our gatherings; crowded and full of bakhour and perfumes.” (Siham, P)

Apart from their living environment, the women also perceived a set of irritants in their working environment. A few women identified the smell of paint, and dyes, which they perceived as making their work difficult by exacerbating their symptoms of asthma:

“Paint and dyes start my asthma symptoms and aggravate them.” (Ameera, T)

I asked the women why they did not speak to their manager about the smell of paint and request whether painting could be done during the weekend, for instance. The women gave two main responses. The first type of response was related to the lack of understanding of the people in their work environment about asthma and what could trigger it. A few women stated that they had spoken to their manager about their asthma but the manager did not show any concern. For example:

“I spoke to them, but they never understand.” (Abeer, T)

The second response, which was more common, was related to their desire to conceal their asthma from others:

“If I asked them not to paint, they will ask why.” (Rahma, P)

The concealment of their asthma was more important to the women than their health. The women seemed to avoid the feeling of stigma. Stigma is an overarching theme in all the study findings and I examine it further in the discussion chapter.

Moreover, many women reported experiencing more exacerbation when they had a cold:

“I usually get severe asthma symptoms when I have a common cold.” (Aseela, T)

A substantial number of women perceived that any factors that led to stress, distress or exertion also made their symptoms worse. Most of them believed that physical exertion exacerbated their asthma. Physical exertion was either described as house duties or the demands of a job:

“Hard work and dust start my symptoms.” (Naeema, P)
“I got asthma because I was moving heavy boxes in my working environment.” (Maymoona, P)

“I am taking care of my six children and my mother in law... I have to do the housework, and we also have animals. This amount of work exaggerates my symptoms.” (Souad, P)

A few women identified laughing and emotional distress as asthma triggers:

“Breathing difficulty starts when I get emotionally upset.” (Munira, P)

“When I laugh continuously, I feel difficulty in breathing.” (Wafa, P)

Despite the women’s perception of the multiple triggers that provoked their symptoms of asthma, many reported that, in some circumstances, asthma symptoms developed unpredictably in the absence of any known trigger:

“Sometimes I get an asthma attack without even knowing what triggered it.” (Ameera, T)

As the data above demonstrate, the women perceived various factors that exacerbated their asthma and made their life more difficult. It was evident throughout their narrations that the women had identified many triggers within their home or working environment, which could provide a possible explanation of why they felt it was challenging to avoid these triggers.

5.3 Summary

The women in this study constructed their meaning of asthma through a process in which they interacted with various personal and social aspects of their lives. They considered different sociocultural beliefs, values and norms in representing their asthma. The women based their understanding of asthma with regard to the meaning of the illness, causes, triggers and symptoms on the status of their asthma, crises and the feeling of weakness, as well as their perception of the impact of asthma on their lives. Their relationships and interactions with their social network were central to their knowledge and comprehension of asthma. This determined the construction of their attitudes and behaviour to asthma. Thus, this chapter has demonstrated that the way the women reacted to and understood their asthma was socially constructed. However, nurses were not among the women social network that influenced and shaped their understanding. This warranted further exploration.
This chapter offered an insight into how women perceive asthma. Chapter six discusses the women’s experience of the burdens of asthma and its impact on their roles, self-values and identities.
CHAPTER SIX
HOW ASTHMA DISRUPTS
WOMEN’S LIVES
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HOW ASTHMA DISRUPTS WOMEN’S LIVES

6.1 Introduction

The women in this study experienced both physical and social burdens of living with asthma. This chapter discusses the women’s views of the ways in which asthma has an impact on their roles and identity. It underlines how they view themselves while living with asthma. Overall, the chapter presents women’s views about the burdens and losses caused by asthma. It also presents their descriptions of their image of health and normality and the transformation of both while living with asthma.
Figure 6.1: Category two: How asthma disrupts women’s lives
6.2 Asthma disruptions

Most of the women perceived asthma symptoms as interfering considerably in their everyday lives. They described several physical, psychological and social burdens of living with asthma and conveyed their concerns about how asthma disrupted their multiple roles (see Figure 6.1). They expressed their belief that asthma limited their abilities to carry out their activities of daily living, as well as their usual personal and social roles and responsibilities. In particular, they emphasised the burden of asthma on their roles as a wife and mother. Moreover, several women suggested that asthma had affected and limited their education, career, social interactions and relationships. The women’s perceptions of the disruption caused by asthma in their lives are described in the following sections.

The women in this study described asthma disruptions particularly in relation to its impact on their activities, their roles as women, their family, education, work, and social roles and responsibilities.

“I feel tired. I cannot do house duties.” (Abeer, T)

“With bad asthma, I can’t visit my relatives.” (Sheikha, T)

“With an asthma attack, I can’t go to work.” (Nawal, P)

6.2.1 Physical effects experienced

This sub-category discusses participants’ perception of the physical burden of asthma. The women described the perceived effect of asthma on their activities of daily living and specific women’s issues, including menstruation, pregnancy, and childbirth. The most common symptoms that all the participants experienced were difficulty in breathing, wheezing, continuous coughing, and tiredness. They acknowledged that their symptoms imposed limitations on the performance of their daily activities. All the women acknowledged the great effect an asthma attack had on their mobility. They saw this as affecting their performance of basic personal activities.

“With asthma, I can’t even take care of myself. I need help with bathing and even sometimes in putting on my clothes.” (Azza, T)

The majority recalled experiencing difficulty in movement; around half of them even described this difficulty as feeling “paralysed”.

“I feel like a paralysed person.” (Afrah, T)

More than half the women attributed the limitation to their activities of daily living to their nocturnal symptoms. They described how nocturnal symptoms, especially breathing
difficulty and coughing, caused a lack of sleep, which affected their performance of daily activities:

“In the morning I was tired because I could not sleep due to a cough and breathing difficulty.” (Maymoona, P)

Several women described asthma symptoms as leading to eating less because of tiredness and not feeling like eating. Two women perceived eating as an activity that might increase the severity of their symptoms, and so they tried to avoid it.

“With asthma symptoms, I don’t feel like eating.” (Sheikha, T)

“I cannot eat when I have asthma symptoms; I feel more difficulty in breathing.” (Shamsa, P)

Similar to their impressions of the chronicity and danger of asthma, the experience of relatives with asthma shaped the perceptions of some women of the physical burden of asthma symptoms.

“My symptoms were like my grandfather’s symptoms. He spends most of his life in the hospital. I think this is because of heredity.” (Faiza, P)

“My mother does not experience severe attacks. I also don’t get severe attacks much.” (Khawther, T)

Knowing somebody with asthma and whether that person saw his or her experience positively or negatively influenced the women’s perception of asthma. Those who perceived asthma as a hereditary disease tended to perceive their symptoms as similar to those of their relatives.

The women discussed their views of how asthma symptoms affected their activities of daily living and even how some daily activities, such as eating, were perceived as exacerbating asthma symptoms. The burden of the nocturnal symptoms of asthma was made clear throughout their accounts.

This section now moves to a discussion of more specific women’s issues and examines how the women perceived the impact of asthma on their menstrual periods, pregnancy and childbirth.

A minority of women ascribed the changes in their menstrual periods to asthma. The women used the word “period” to indicate menstruation. A few women noticed that their asthma symptoms were more severe during their menstrual period:

“Asthma is severe during my period.” (Sharifa, T)
Some married women discussed changes in the duration and heaviness of their menstruation with asthma attacks:

“With an asthma attack, I get my period earlier than usual. It also starts heavy.” (Abeer, T)

While some women expressed doubts about the perceived reason for the changes in their periods, a few believed that asthma was the cause of these changes:

“I have a problem with my period, but I am not sure if it is due to asthma.” (Salwa, P)

“I know that asthma is the cause.” (Aseela, T)

Overall, most of the women in this study did not perceive any changes in their menstrual period and even most of those who perceived changes conveyed some uncertainty regarding the cause. In contrast, they vividly described the burden of asthma during pregnancy, as described below.

A few women who had moderate asthma described no change in asthma symptoms during pregnancy.

“Asthma is the same. Nothing changed with pregnancy.” (Munira, P)

However, around two thirds, mostly with severe and moderate asthma, reported experiencing exacerbation in asthma symptoms in one or more of their pregnancies. Afrah’s response was typical of many women in this group who perceived asthma during pregnancy as “more tiring” and “more hectic”:

“Asthma attacks during pregnancy were more tiring and more hectic.” (Afrah, T)

Women described varying experiences of the timing, severity, and frequency of asthma attacks during pregnancy. Many agreed on the increase in the severity and frequency of asthma symptoms during their pregnancy, especially in the last trimester.

“During pregnancy, breathing difficulty was severe. Asthma attacks stay longer than usual. Asthma makes the pregnancy more difficult.” (Ameera, T)

Some women attributed the severity of their symptoms to the progression of their pregnancy and the growing size of the baby:

“During the last three months of pregnancy, my shortness of breath got difficult, and the cough was trouble. Maybe this was because of the growth of the baby.” (Ahlam, T)
Thus, the women demonstrated various experiences of asthma during pregnancy. However, the majority expressed doubts about the exact cause. They gave various possible explanations for the exacerbations experienced, including the progression of the pregnancy and the growing size of the baby.

Despite many of the women expecting that asthma might potentially have an impact on their childbirth, none of them reported experiencing asthma symptoms or asthma attacks during childbirth.

“I did not experience asthma symptoms in any of my deliveries.” (Ahlam, T)

Only one woman described an asthma attack that she believed caused her to give birth to her child early:

“In my eighth month, I got a severe asthma attack. My waters broke, and they took me for caesarean.” (Azza, T)

The preceding discussion has shown how the women constructed their perception of the physical burden of asthma. It also discussed the women’s perceptions of the effect of asthma on their menstruation, pregnancy, and childbirth. Most experienced a substantial negative impact on their activities of daily living, particularly in relation to nocturnal symptoms. In comparison with the effect of asthma on pregnancy, they revealed no notable burden of asthma on menstruation and childbirth.

It has been demonstrated how the women perceived the various impacts of asthma on their bodies. Moreover, the women in this study evaluated the burden of asthma from the point of view of how it restricted their various roles. They recognised its negative effects on their motherhood, wife, housewife, and other social roles. Among the multiple roles that women play, they prioritised the roles of mother and wife.

The next section explores how the women perceived asthma as affecting their domestic roles, specifically as a wife and mother, and the importance they placed on these roles.

6.2.2 Disrupted marital relationship and housewife role

Twenty-three women in this study were married. Despite the agreement of most of them on the impact of their asthma symptoms and exacerbations on their sexual relationship with their husband, they showed hesitancy in discussing this issue. They only made a few statements in this regard:

“Husband and wife relations are affected by asthma.” (Ameera, T)
“It was difficult to go for wife and husband relations with the breathing difficulty and coughing. I think you understand what I mean.” (Zaynab, P)

This was one of the issues about which I felt it was important for me to write as many memos as I could immediately after interviewing the women. I could sense through the women’s narration that it was one of the issues that concerned them, despite their unwillingness to discuss it. Examples of memos are shown in boxes in this section.

During the interviews and especially when I started discussing the impact of asthma on their roles as wife and mothers, many women closed their statement with “I think you understand what I mean. This indicated two major things for me, the first one; they were trying to see the connection between them and me as an Omani woman who is also wife and mother. They were trying to show me that we were sharing many things, and they expected me to understand what they just stated. Moreover, through that statement, I sensed that the women were signalling their unwillingness to discussing the impact of asthma on their sexual relationship. That was a signal for me to stop discussing this matter.

Box 6.1: Memo describing characteristics shared by the researcher and participants

Most of the women expressed their concerns and negative feelings about not being able to provide the husband with his “right” to the “husband-wife relation” while having asthma symptoms.

“It is impossible to give my husband his right; I think you understand what I mean.” (Azza, T)

All the women in this group expressed their unwillingness to discuss the impact of asthma on their sexual relations with their husband, which they preferred to call, in their words, “the husband-wife relation”. They considered it a private matter that should not be discussed or shared with a stranger, even if that stranger was a member of their cultural group. The following statement articulates the view of all the married women in this study. It emerged precisely when I probed for more details on how asthma affected the relationship with their husband.

“If possible, can we skip this question, I don’t like to talk about this issue, you are an Omani woman, and you know how hard is to talk about such a private matter like this.” (Salwa, P)

Although few women overtly discussed this issue, the emotional concerns and discomfort were prominent on the women’s faces when they were talking about it. The following was
one of the memos I wrote immediately after interviewing a woman with mild asthma. This woman reported not having children and receiving treatment for infertility.

Although Faiza did not say much about how asthma symptoms affected the husband-wife relation, her face was showing lots of emotional upset; I could almost see the tears in her eyes. She kept silent for a while. Her silence conveyed lots of things than her limited words. At that moment I felt that she wanted to ventilate and express the thoughts that she was struggling with her mind. However, I could understand her point of keeping silent. Culturally, for women specifically, it’s hard to talk about the sexual relation. In this culture, the sexual relation is not a kind of topic that can be easily opened and discussed.

**Box 6.2: Memo interpreting women’s reluctance to talk about the impact of asthma on their wife-husband relations**

Apart from the discussion of sexual relationships, most of the women in this group conveyed their unhappiness about the effect of their physical and psychological symptoms, as well as their frequent hospitalisation, on their inability to carry out their other responsibilities as wives. Those perceived responsibilities included cooking for their husband, taking lunch or dinner with him, and socialising and spending time with him.

“I get frequent attacks, so how much time do you think I spend with my husband?”
(Afrah, T)

More than half the married women had a housemaid; however, they affirmed that the husband’s needs are the responsibility of the wife, not the housemaid.

“I don’t like the housemaid to serve my husband. It is my duty, not the housemaid. The respect of the husband was something I learned from my mother.” (Aseela, T)

To understand more of the case the women were making regarding their activities or duties as wives, it was central to explore the origins of those perceptions. Therefore, I asked the women: “Why do you think the performance of those activities like cooking and socialising with the husband is important?” The following quotation summarises the women’s responses:

“I think you know why! It is cultural; we are raised in a family that appreciates the woman doing such activities for and with her husband.” (Faiza, P)
The above comment conveys a strong sense that these activities were seen as obligations or duties by the women towards their husbands. Many women were keen to emphasise that it was important for them to see themselves as good and caring wives. It appeared in several transcripts that women were raised in families where they stressed such activities of the wives for the husband. Their culture and religion oblige women to carry out certain duties in relation to their husband.

A few women conveyed their anxiety about their husband marrying another woman because of their sickness. They stated that Islamic religion and society give the husband the right to marry another woman if his wife is ill and is unable to carry out her duties as a wife. Although they believed that remarriage is the husband’s right, they conveyed their feelings of fear and unhappiness:

“Our society is supportive for the husband to marry to more than one wife, so how about the man who has a wife who always gets sick?” (Munira, P)

Among the three women who raised this issue, two were having infertility problems and the third experienced frequent asthma attacks and hospitalisation. This could have contributed to their concerns.

I probed this issue with other women, following the principles of theoretical sampling. However, most denied that this was a worry.

“See, I will not deny him the right to remarry because this is what Islam gave him as a man, for sure under specific circumstances and with conditions also. However, I don’t think I should worry about this. Asthma is not a dangerous disease. I do not have any disability or mental problem.” (Salwa, P)

“My husband is helpful and supportive; he takes care of me well. I am not worried about him getting married. I don’t think he will.” (Nawal, P)

The women gave two explanations for not considering this as worrying. The first explanation was related to their perception of asthma as a non-dangerous illness that has no major effect on their lives. The other explanation was related to their husbands’ positive attitude of support for their wives, which allayed any fears about remarriage.

The discussion above gave a sense that the women were valuing themselves as women according to their ability to perform various housewife roles. The women attributed the understanding of their housewife role to traditions and expectations raised within their social context. Section 1.10.7 highlights women’s role within the context of Oman.
Moving from the role of wife, this section now explores the perceived changes the women experienced after marriage. Narrating their own experience with asthma, the women in this study presented various experiences of asthma after marriage. For most, their asthma status remained the same after marriage.

“Nothing changed with my asthma after my marriage.” (Salwa, P)

Around one quarter of the married women reported changes in their asthma status after marriage. While some women experienced an increase in the severity of their symptoms, others found their asthma status improved after marriage. In addition to severity and frequency, the changes also involved the kind of symptoms they experienced:

“There were less severe symptoms, and the attacks were coming in less frequently.” (Siham, P)

“Before marriage, my asthma attacks were starting by breathing difficulty. After marriage, they begin immediately with dizziness, vomiting and losing consciousness.” (Halima, P)

It is noteworthy that women who experienced changes in their asthma after marriage mostly had moderate or mild asthma. Among this particular sample, only two participants had severe asthma.

In an interesting case, which included a combination of influences (personal, environmental and social) on the perceived changes of asthma after marriage, one young woman diagnosed with moderate asthma reported severe changes in her asthma symptoms. When I probed Halima on what she thought was the reason, she gave a unique answer. This woman attributed the changes in her asthma to particular reasons. The first was her pregnancy, as she became pregnant a few months after getting married. The second reason was the environmental factors to which she was exposed after marrying, as her new home was in the middle of a farm and her husband’s family had animals near the house. She also reported that her husband and his family did not understand her asthma at the time. While investigating more with regard to the reason for their lack of understanding of her condition, she explained that this was because they were not previously aware that she had asthma because she had not told them.

“I did not think it was important to tell my husband about it before marriage. It was not affecting my life much before marriage.” (Halima, P)

Further exploration revealed Halima’s feeling of embarrassment about being known as a woman who uses an inhaler. Chapter seven discusses the women’s attitudes towards their inhalers. Halima also reported that she did not experience this problem before marriage as
several people in her family had asthma and used inhalers. She discussed her uncertainty about how her husband and his family would view her if they knew about her asthma and inhalers. She said this was the main reason for not telling her husband about her asthma before marriage.

Among those who experienced a worsening of their asthma after marriage, two women reported receiving treatment for infertility, which they linked to the changes they experienced in their asthma.

“I could not get pregnant for more than five years. I am receiving treatment for this issue. I am not sure, maybe the treatment I take increased the severity of my asthma symptoms.” (Faiza, P)

A few women attributed the changes to alterations in their hormones after marriage. Two of them experienced an improvement in their asthma symptoms.

“It might be because of the hormonal changes after marriage.” (Aseela, T)

A few women admitted to having doubts about whether asthma or its treatment caused those changes.

“I don’t know if it is because of asthma or something else.” (Sharifa, P)

Similar to their perception of the changes in their menstrual periods, women presented doubts about the reason for the changes they perceived in their asthma after marriage. They thought of several factors which they suggested might contribute to the changes in their asthma status after marriage. The most common explanation women gave was hormonal changes and infertility treatment. However, they seemed to ignore lifestyle and environmental changes.

After exploring the women’s perceptions of the impact on their role as wife, the discussion now moves to the impact of asthma on their motherhood role.

6.2.3 Disrupted motherhood role

Twenty women in this study were mothers who had one or more children. Most of the women gave a great deal of attention and concern to their role as a mother. The majority of them suggested that, due to asthma’s physical and emotional effects, they were not able to carry out their duties and responsibilities as mothers adequately. They were not able to take care of their children as they would wish:

“I was unable to prepare lunch for my children.” (Munira, P)
“I don’t have the mood to sit or talk and play with them.” (Aseela, T)

Apart from their household duties, several women also described their concern about being absent from their family life because of asthma symptoms and frequent hospital admissions. They described not being able to help their children with their studies.

“I remember once when I was admitted; my younger daughter had an exam. I could not be with her on that day because of my asthma. Being unable to be with my children when they need me hurts me.” (Rahma, P)

As mothers, they considered following the studies of their children as one of their major responsibilities. This was seen more with women who were housewives and had at least an elementary level of education.

“I follow my children’s studies. My husband comes home during the weekend only.” (Munira, P)

Conversely, housewives who had a preparatory level of education and those who did not have a formal education stated that their children’s schoolwork was followed either by their husband or eldest daughter.

“Most of my children are at elementary or secondary school. I can’t help them much. My husband had a better education level.” (Souad, P)

Around half the employed women stated that their children’s studies were a shared responsibility between them and the father, while the other half thought it was among their responsibilities as mothers:

“We divide the housework and the children’s responsibilities among both of us.” (Nawal, P)

“Having a job outside the house does not relieve me from my responsibility of following my children’s school performance. Still, it is part of my duty as a mother.” (Ameera, T)

During their hospital admissions and their experience of asthma attacks, one third of the women reflected that their family, especially their children, were not settled. Children had to move to other family houses, such as the grandparents’ home, because the mothers could not perform household duties and take care of them. This was articulated more frequently by women who experienced severe and frequent asthma attacks.

Among this group, several women did not have a housemaid, so they were worried about cooking and doing the laundry for their husband and children. They did not see any other choice than moving the children to other family members’ homes.
“I don’t have anybody taking care of my children. My husband does not know how to cook. During my sickness we move to my mother’s house. My family help me in taking care of my children.” (Munira, P)

More than half the women had a housemaid and half of them reported that they hired a maid after their diagnosis of asthma. All of them admitted that they tended to rely on the housemaid to carry out household duties more than they had before their diagnosis of asthma.

“Although I was against hiring a housemaid, because of asthma I had no other choice. We live away from our families. I needed somebody to help me with the housework, especially cooking and cleaning.” (Rahma, P)

However, all the women who had a housemaid stressed that a “housemaid doesn’t replace the mother’s care”.

“The housemaid doesn’t replace the mother role for sure. Children need somebody to sit with them while they do their homework and when they study for their exams. These are my responsibilities, not the housemaid.” (Khawther, T)

For this group of women, despite having a housemaid, their children still moved to their grandparents’ or other close relatives’ homes during an asthma attack. They conveyed their reluctance about leaving their children with the housemaid and expressed their preference for leaving the children in another family house:

“Because of my asthma, my children keep moving from my mother’s house to my husband’s family house and our house.” (Azza, T)

“I don’t like leaving my children with the housemaid only.” (Ameera, P)

They explained their reluctance to leave their children with the housemaid by not feeling that their children are safe unless they are with family members. They also expressed their concern about their children’s school performance; which was seen by them as another reason for moving their children to another family home. This group of women were among those who viewed children’s school performance as part of their duty as a mother.

“I feel they are safer with family than with the housemaid alone.” (Rahma, P)

“The housemaid cannot help them with their homework.” (Aseela, T)

A minority reported that they had to leave their children in the care of a housemaid while they experienced asthma attacks or during hospital admissions. These were women who lived away from their extended family.

Overall, almost half the women who perceived asthma as imposing a great limitation on the performance of their wife and mother roles had severe asthma. The other half were
mostly diagnosed with moderate asthma and reported experiencing frequent asthma attacks.

Among their various roles, most of the married women prioritised their roles as mothers and wives. They demonstrated their efforts at trying to fulfil social, cultural and religious expectations as women in general and as mothers and wives specifically. They described their reluctance to assume the ‘sick role’ and discussed their feeling of inadequacy as a woman if they assumed this part. They associated their perceptions of their different roles with the social expectations of the roles of a woman. In chapter five, most of the women are shown to perceive asthma as an intermittent and self-limiting illness and this perception influences their use of treatment and healthcare services. Their intermittent use of treatment led to their asthma being poorly controlled. This might, therefore, provide a partial explanation of why the majority of them experienced a great limitation from asthma on their activities and duties.

In addition to the perceived burden of asthma on women’s bodies and domestic roles, asthma was also felt to burden the lives of their families. The following section highlights how the women viewed asthma as controlling their and their families’ lives and what kind of negative feelings asthma generated in them as a result.

6.2.4 Disrupted family life

Many of the women discussed their worries about asthma controlling their and their families’ lives. More than half the women in this group had severe asthma and several experienced sudden, frequent asthma attacks. Several women suggested that they cancelled many family activities because of asthma. Experiencing a sudden asthma attack at the beginning of or during a family event often forced the family to cancel their plans. Even women who did not experience frequent asthma attacks perceived that their asthma limited their families’ activities. They attributed the limitation mainly to their families’ concerns about provoking their asthma symptoms.

“Asthma attacks control and direct, not only my life, but also my whole family life.” (Sheikha, T)

Seeing asthma as restricting their families’ lives and limiting their and their families’ enjoyment produced negative emotions among many women. The uppermost feeling was “blaming self”. Women blamed themselves for being the “person who ruined good events” because of asthma attacks.
“Lots of family plans were cancelled because of my asthma. I blame myself a lot for that.” (Huda, T)

Moreover, many women described themselves as a “troublesome family member” or the “troublesome wife”. Moreover, several women stated their worries that asthma caused or might cause problems to the husband in his work:

“I feel that I am troublesome to my husband. I am afraid I cause him a problem in his work.” (Afrah, T)

“My husband has to leave his job to bring me for my follow-up visits or when I experience an asthma attack.” (Faiza, P)

Viewing themselves as somebody who ruins events and as troublesome to others generated a sense of self-hatred in the women, which appeared through expressing their wish to be different:

“Feeling that I am troubling my family irritates me a lot. I hate seeing myself in that situation. I wish I were different.” (Noor, T)

The kind of trouble described often involved relatives taking them to their follow-up visits or the emergency department. This might explain the women’s attitude towards attending their follow-up visits. Section 8.5 describes how the women’s perception of burdening family members affected their use of various health services. Section 1.10.7 relates to the status of women driving and its social acceptability within the Omani context. Overall, in trying to understand the women’s perceptions of how asthma controlled their and their families’ lives, their social and cultural context needs to be considered.

Apart from their roles as women and their perception of the control asthma has over their and their families’ lives, the women also described their views about how asthma limits their social life, meaning their social activities within their family and social networks. This included attending occasions such as family gatherings, weddings, births, condolences and other social activities seen as part of the culture and tradition of Oman. These findings are described below using examples from the women’s transcripts.

6.2.5 Disrupted social life

The women presented several scenarios illustrating their perceptions of how and why they believed asthma influenced their social life. Although less than half of them have severe asthma, many reported experiencing severe symptoms. Around one third of the women reported that they stopped attending social activities.

“I don’t have something called a social life.” (Abeer, T)
The majority perceived that asthma imposed a level of restriction on their social activities, either because of symptoms or triggers. Most of them suggested that the physical and psychological effects of asthma limited their social participation.

“Asthma symptoms restrict my participation to a social gathering.” (Shamsa, P)

Most women reported having become selective about which events to attend. They attributed their selection to their worries about asthma triggers in a social gathering (see section 5.2.2. The fear of suffering an asthma attack during a social gathering was another reason several women gave for avoiding attending social events.

“At home, I can avoid the things that irritate me. But when I go outside, I have no control. Lots of things outside might cause me to have an asthma attack.” (Ameera, T)

An individual case presented in this study was a young woman who attributed her limited social life to her mother being protective. She attributed her mother’s attitude to her fear of uncertainty about what might happen to trigger or increase the chance of her daughter having an asthma attack:

“Somehow, she instilled her idea of being protective in me. I do not attend much of friends’ gathering and trips just to avoid getting asthma attacks.” (Noor, T)

This young woman seemed to have isolated herself, although she tended to blame her isolation on her mother being protective.

In addition to the women’s perception of the potential for encountering triggers, a large number considered their view of the importance of an event in making their decision about attending a social gathering.

“If it is a family gathering, I can’t apologise just because I am afraid of getting an asthma attack. People see me as healthy; they don’t see any reason for not attending.” (Ameera, T)

Despite their realisation of the triggers in a social gathering, several women spoke of their obligation to attend such events, especially those of their relatives. Some even stated that on several occasions they felt compelled to attend a gathering even with their asthma symptoms. They were obliged by their family’s expectations to attend important social events.

“It is important for my family to participate and to attend such gatherings, especially a wedding, baby birth, and condolence. I am expected to share my family and relatives, their happiness and grief.” (Shamsa, P)
The sense of obligation and duty was obvious in women’s discussion of their social role. Shamsa’s script features a sense of how her community perceives asthma and its possible triggers and its impacts on a woman’s life.

Several women in this study strongly demonstrated a fear of stigma. They demonstrated their concern about embarrassment and shyness due, in particular, to the sound of wheezing and coughing. They expressed their fear of being seen differently because of their asthma symptoms:

“The sound of wheezing is embarrassing me. I don’t like others to see me different.” (Moza, T)

“I don’t visit people when I have a cough or wheezing, I don’t know what they will think of me, and my disease.” (Rahma, P)

Many women in this group also stated that they tended not to tell people that they have asthma to avoid being seen as different or not normal. Through this, they were trying to preserve their self-worth and avoid being stigmatised by others.

“If they knew about my asthma they might look at me as a sick woman. I don’t like seeing different.” (Siham, P)

They showed their uncertainty about how people in their social network viewed them when seeing them with asthma symptoms. A few verbalised their fear of causing an unpleasant scene when they cough in front of others.

“They might feel disgusted with sitting or eating with me because of my cough.” (Siham, P)

A few women in this study used the word “disgust” when describing the moment people see them coughing and spitting secretion. I found this word offensive as it revealed a strong negative feeling. When the women were mentioning this word, I confirm with them the meaning they want to reveal it. They even showed me through their facial expression what do they mean by this word to confirm the exact meaning of it.

**Box 6.3: Memo interpreting the terminologies used by the women in describing others’ feelings towards their symptoms**

Women also expressed their fear of being misunderstood by others when they had to use their inhalers. They attributed this to the possibility that people might not understand what an inhaler is and its importance to people with asthma.
“I don’t know how they will look at me if they see me using the inhaler.” (Halima, P)

The women perceived various reasons for the restriction on social interaction, including their fear of experiencing asthma symptoms/attacks and stigma. This could provide a partial explanation of the women’s attitudes towards their inhalers (see section 7.3).

The above summarises the reasons for women's social activities being restricted due to their asthma. The next section explores how the same influences were perceived as limiting their education opportunities.

6.2.6 Disrupted educational path

The women discussed the impact of their asthma on their education attendance and performance. Several women described frequent absences and sick leave from classes because of asthma attacks and hospital admissions.

“I missed many classes and exams. I faced difficulty in catching up with my classmates.” (Afrah, T)

In the following extracts, Ahlam discusses how her asthma affected her performance during her Master’s degree.

“Because of asthma attacks, it took me one and a half years to finish my Master’s study. I was in the UK, and I was missing my daughter.” (Ahlam, T)

Ahlam attributed her asthma attacks to her emotional status, since she had left her daughter with her mother in her home country while travelling abroad to study. Ahlam’s perception of her maternal role also contributed to her negative emotion, which she believed triggered her asthma attacks.

“I felt bad. Many people in my family blamed me for leaving her. Thinking about my daughter and the way people might view me by leaving her were triggering my asthma symptoms.” (Ahlam, T)

Ahlam demonstrated her negative feelings about herself for leaving her daughter. It was apparent that this emotion was provoked by other people in her family who blamed her for leaving her daughter. The community expectation of the motherhood role seemed to concern her. Being unable to fulfil that expectation as a mother raised her negative sense of herself. Her account features conflicting expectations in Omani society in which a woman is encouraged to do well in her career but also to be a good wife/mother.
It is worth noting that a sense of self-blame was recurrently expressed by many women in this study in regard to the burden of asthma on their various duties. Through various sections in this chapter, the sense of self-blame is prominent.

In section 5.2.5, several women identified school and college classes, such as sport, art, and music, which provoked their asthma symptoms. They expressed their doubt about enjoying these activities, while others believed they triggered their asthma symptoms and so avoided them in an attempt to mitigate their asthma burden. Section 7.2 discusses the women’s strategies for managing asthma in their daily lives.

“Instead of enjoying my sport and art classes, I avoided them.” (Huda, T)

A few women blamed asthma for their failure to achieve their preferred study major and a future career. Emotions of anger and sadness were prominent and generated by asthma and its burden on the women.

“In my final year of secondary school, I experienced many asthma attacks. It was a stressful year. I got a good GPA [grade point average] but not what I aimed. I could not register for the college I wanted, and I had to change my education major. Asthma changed my future.” (Noor, P)

Similar to other women, Noor regarded asthma as a barrier to achieving her preferred future, which created emotions of sadness and anger in her.

This discussion has outlined how women perceived asthma as a barrier to their educational achievement and limited their educational opportunities. It also illustrates the women’s negative emotions generated by the burden of asthma and its impact on their education. The next section explores how women perceived the burden of asthma on their working lives.

6.2.7 Disrupted career path

Eleven women in this study were employed outside the home. Most of them perceived asthma as having a negative impact on their job performance, which, in turn, created problems for them within their working environment. All of them suggested that asthma symptoms, and especially nocturnal symptoms, imposed great difficulties on performing their work. Many described missing work due to nocturnal symptoms and hospital admissions.

“When asthma starts at night, I don’t get enough sleep. In the mornings I find it difficult to breathe.” (Nawal, P)
At the same time, more than half the employed women described how their work provoked their asthma symptoms.

“My work needs power and a lot of effort. When I lecture for a long time, I start feeling the asthma symptoms, mostly breathing difficulty... No, I don’t use my inhaler every day.” (Sharifa, T)

Many women connected their absence from work to their experience of frequent exacerbations, which might be attributed to their attitude towards not using their asthma treatment regularly.

“I get frequent asthma attacks. I had lots of sick leave days from work. I was not able to complete my work on time.” (Salwa, P)

Among this group of women, a few expressed their fear of losing their job. They attributed this to their manager’s lack of understanding of asthma and its potential impacts.

“They gave me a verbal warning because of my frequent sick leave. I am afraid of losing my job; I like my job, I don’t want to lose it.” (Naeema, P)

A few women changed their job due to asthma. They attributed the change to workload, avoiding triggers, lacking a feeling of self-satisfaction, and needing a separate office. The last reason was associated with not wanting to be seen using an inhaler.

“I felt that I was not doing my work as it was supposed to be. I felt bad that I am not the person whom I was. I was missing a sense of self-satisfaction. I decided to change my job.” (Thuriya, P)

“With the new job, I have my office.” (Rahma, P)

The emotion of sadness recurred here but this time it was about the women’s perception of asthma as a burden on their career or as a barrier to their career aspirations.

The majority of the women who reported changing their career demonstrated their understanding that this change was for their own benefit.

“That was the best choice for a woman like me, who has asthma.” (Nawal, P)

When I probed them on whether changing careers had made any perceived changes in their economic status or their position in their working area, all denied this.

“Nothing changed with my salary.” (Rahma, P)

Absences from work and the restrictions created by asthma symptoms in the performance of work duties were the major concerns in this section. Women who made the decision to
change their career path described their desire to avoid the various disruptions caused by asthma.

In the preceding discussion, women perceived and linked various restrictions in their and their families’ lives to asthma. These restrictions were linked to different negative emotions that were expressed by the participants. These emotions are discussed next.

6.2.8 Negative emotions

The women in this study expressed several negative emotions about asthma symptoms and the burden they placed on their lives. The most prominent emotions were sadness, feeling upset, loss, loneliness, depression, frustration, fear, worry, panic, hopelessness, jealousy, shame, shyness, embarrassment, self-blame, and self-hatred. The emotions of fear and self-hatred were uppermost. Emotions around embarrassment were discussed earlier in section 6.2.5 on women’s feelings about stigma.

Almost all the women expressed fear. Many women asserted that their fear came from experiencing breathing difficulties. They described the breathing problem during an asthma attack as “somebody holding their neck and trying to strangle them” or as “something heavy sitting on the chest that does not allow breathing”. This feeling was mainly linked to their fear of death.

“I am afraid of dying of an asthma attack.” (Aneesa, P)

A few women also specifically expressed their fear of becoming pregnant as strongly linked to their fear of suffering and death. They were diagnosed with moderate asthma and reported experiencing frequent exacerbations.

“Do you think it is possible for a woman who has asthma like mine to get pregnant and go through delivery? I think it is dangerous; I don’t want to die.” (Shamsa, P)

One woman in this group described doubt about what asthma might be like during pregnancy. She reported that she had not experienced asthma during pregnancy. The other two women described how the severity of their asthma during pregnancy had provoked their fear of getting pregnant again.

All the women stated that the sudden onset of breathing difficulty caused them to panic because they did not know what to do and they were unable to help themselves. They tended to react to their panic by crying. Many stated that their panic and crying were due to their fear of death and being absent from their family’s life. This could be linked to the women’s perception of asthma as a life-threatening condition.
“I wake up like somebody who saw a horrible dream; my heart is beating fast as if I was running from something for a long period. I feel panic; I lose my concentration on what I should do and how I should act.” (Noor, T)

“I feel panic because I am afraid of dying and leaving my children.” (Azza, T)

At the moment of an asthma attack, many of the women described themselves as “hopeless”. They expected death, leaving them with no hope for life, as described by Salwa:

“Without being able to breathe, how can life be? It is a sign of death. I lose my hope of life.” (Salwa, P)

Many women described mood changes provoked by their panic and hopelessness. They verbalised their tendency to become nervous and easily irritated during an asthma attack. In trying to deal with an attack, they tended to cry and isolate themselves.

“I get irritated and nervous fast during asthma attacks. That’s why I isolate myself in my room.” (Aneesa, P)

A third type of fear was of being viewed as an old woman. Four women, of various ages, educational backgrounds and geographical areas, expressed this concern.

“When I get an attack, I feel like an old person who can’t do anything and depend on others for help. I am still 45 years old, but asthma attacks made me look older and helpless.” (Sheikha, T)

While the women were reiterating their experience with asthma attacks, many described themselves in various negative terms. They reported their feeling of failure to carry out their activities of daily living and deliver their roles as wives, mothers, and housewives, which made them view themselves as “weak” and “helpless”.

“I felt weak. I couldn’t move at all or do anything even to myself. I felt as if I was dying.” (Naeema, P)

Within themselves, many women admitted viewing themselves as weak. However, they reported trying to conceal this weakness from others. It might be because they felt weak; they perceived that people around them might feel the same way about them.

“I know that I am weak because of asthma, but I don’t want them to see me weak.” (Ahlam, T)

“Hating myself during an asthma attack” was a common expression given by many women. This warranted further exploration, so I probed this with the following question: “Why do you think you hate yourself at the time of an asthma attack?” Similar to the emotion of fear, women in this study gave different descriptions of their self-hatred. The
fear of being seen as weak was one component of self-hatred. Several women highlighted the issue of “I hate that my children see me with an asthma attack”. They avoided being seen as panicking by their husband or children for fear this would affirm the family’s view of them as weak. They feared being viewed as a “weak mother” or a “weak wife”. Accordingly, they tended to isolate themselves.

“I don’t want them to see their mother in that situation. I don’t want them to keep in mind that their mother is weak, I hate being seen like that, especially by family.” (Ameera, P)

“I don’t want my husband to think of me as a weak wife.” (Afrah, T)

The inability to perform their roles in the way they expected created a sense of self-hatred in the majority of the women in this study.

“I hate myself with an asthma attack. I don’t tolerate anybody, even my husband, and my child. I get irritated easily. I can’t carry out any activity.” (Afrah, T)

Most of the mothers reported that they hated causing emotional disturbances to their children by making them worry about them during asthma attacks.

“Seeing my children crying around me when I have my asthma attack is something I don’t wish to see. Knowing that my children are afraid that one day I might not be able to recover from an asthma attack and that I will die is a terrifying feeling. I hate myself for causing this feeling for them; they are still small for this.” (Rahma, P)

One quarter of the women stated that they hated themselves because they perceived that they were causing problems for their family, especially their husband and children. They described those problems as practical and emotional. Practical problems were illustrated by trouble for their husband and other family members who had to carry out their duties, such as childcare and housework. It also included trouble for the husband when taking the women to the hospital for treatment, especially when having to get leave from work. Chapter seven discusses how such perceptions influenced the women’s attitude towards using healthcare services.

“I hate seeing my husband having to do my duties as a mother and wife.” (Siham, P)

The feeling of self-hatred was shared by most of the women, despite the differences in their characteristics and asthma status. The previous narratives revealed some interesting data about the women’s views of their identity and self-image.
Many of the women stated that they felt upset because their severe asthma symptoms impaired their abilities to carry out their roles and responsibilities. They expressed self-blame for not being a good mother and wife and not being able to attend to their household duties.

“There is something I need to be accomplished but I can’t. I feel upset.”

(Sheikha, T)

A few women also expressed their anger at having asthma and that asthma forced them to leave something they loved.

“I liked my previous job. I felt angry and sad about leaving something I love.”

(Thuriya, P)

All the women who experienced frequent and severe symptoms reported that they felt sad, upset, frustrated and depressed because they were unable to enjoy their lives.

“I feel frustrated and depressed that I cannot live my life as a mother, wife or employee. It is frustrating. I can’t enjoy my life.”

(Abeer, T)

A substantial number of the women conveyed their concerns and sadness at not being able to perform their religious rituals as they wished, specifically, their prayers, while experiencing moderate-to-severe symptoms of asthma.

“Because of breathing difficulty, I was not able to prostrate in the prayer. Although Islam allows us to sit for prayers during sickness, I felt that my prayer was incomplete.”

(Azza, T)

Some of the women reported feeling jealous of other women who do not have asthma. They wished to be like others and to be able to live their lives without interruption by asthma symptoms.

“I feel jealous of not being able to enjoy my life same as they do. I continuously compare myself with my friends and colleagues, and I wish I could be like them. I wished I could do everything without being worried that this might irritate my asthma.”

(Huda, T)

During an asthma attack, almost half the women conveyed that they felt “alone”, despite the support of family. They attributed this feeling to their belief that no one could help them during their asthma attack and that it is their “personal war”.

“I felt like somebody who had been left alone in a war fighting...asthma is my war, and the attack is my great enemy.”

(Wafa, P)

In the preceding narratives, women linked their emotions to their understanding of the meaning of their illness and the perceived burden of asthma on their personal and social
lives. They perceived the burden of asthma negatively, which generated various negative emotions, among which failure, fear, and self-hatred were the most prominent. Women perceived asthma as affecting their abilities to perform various roles and duties. The restriction on their abilities generated feelings of failure. It was also noticeable that the idea that women were failing in their social roles was an important component in their self-hatred.

Overall, the women based their understanding of asthma attacks on the physical and psychological effects and how these restricted their and their families’ lives. The next section examines how these influences affected the women’s view of themselves.

6.2.9 Not being a normal woman

The women in this study displayed two main views of themselves. While many participants described how their asthma had, at some point in their lives, affected their view of themselves, a minority did not. The first group perceived that the effects of asthma entailed changes in themselves and their identities. This sub-category discusses two themes that reflect the women’s understanding of normality and whether they saw themselves as normal.

Almost half the women reported that, with asthma, they do not see themselves as other women who do not have asthma. They described themselves as “being different” and “not being normal women”. Their expression of “wishing to be normal like other women” reflected this view.

“I wish to be a normal woman without any disease. I wish I could enjoy my life as others do.” (Naeema, P)

Several women extended their narrative by comparing themselves and their performance with women who do not have asthma. They defined a normal woman as “one who does not have an illness”, “who can perform her activities of daily living without help”, and “who can fulfil her duties and social role as a woman”.

“I wish that I am like other normal women who don’t have asthma. I wish I can live my life like them. I wish I could go outside without feeling worried about getting an asthma attack or about the worry of taking treatment. I wish to be like normal mothers who can sit and play with their children without thinking of having asthma. This is what normal life for a normal woman means.” (Aseela, T)

Aseela articulated the view of most of the women in this study by presenting several criteria for normality. She linked the concepts of a normal life and being a normal woman.
She related her sense of self-worth and normality to an absence of disease and to her abilities to perform domestic roles.

Many women reflected their views of falling short in performing their duties, especially as mothers and wives. They viewed themselves as “insufficient”, “incompetent”, and as “not normal”, which indicated their negative sense of self-worth as a wife and mother.

“I feel like an insufficient wife.” (Halima, P)

“I am a part-time mother and wife who is not always available for her family.” (Sheikha, T)

“I view myself as an incompetent mother and wife. I am not able to carry out my basic duties.” (Ahlam, T)

The women connected their feeling of falling short to their perception of their main roles. Their self-worth as mothers and wives appeared diminished.

Several women described how their physical symptoms left them helpless and dependent. They related their sense of helplessness to the amount of help they received in performing their activities of daily living.

“I feel helpless. I am always in need of help.” (Azza, T)

One quarter of the women related their sense of self-worth to societal expectations of the responsibilities of a woman.

“I am expected to carry out my responsibilities as a wife and mother. Do you think it is possible to say I am sorry I can’t be a mother, or a wife just because I have asthma?” (Faiza, P)

In addition, several women highlighted the impact of asthma on their identities. The expression “being normal” encompassed more than the fulfilment of their duties. It also included feelings of being stigmatised by their social group in general and their family in particular. The negative identity of “being asthmatic”, a “sick woman” or a “woman with an inhaler” is evidenced in all the findings chapters. The women’s fear of being seen as weak by their family members, especially their husband and children, was common.

Women who experienced reduced physical activity and perceived themselves as not being able to live a normal life expressed concerns about losing a coherent sense of self and their identities as a woman, specifically as a wife, mother, and housewife. This was clear when the women described themselves as “insufficient”, “incompetent”, “part-time”, and “not good” mothers and/or wives and/or housewives, as seen earlier in this section.
“I don’t see myself as a complete woman.” (Azza, T)

“I am not the one I used to be.” (Wafa, P)

“I can’t find [mentioned her own name] inside me; I lost her through my suffering with asthma.” (Afrah, T)

“I want them [the healthcare team] to help me get myself back.” (Abeer, T)

While many women considered asthma as negatively affecting their view of themselves, a minority did not. This group of women tended to normalise their asthma. Their self-image was not affected by their asthma. These were sometimes women who denied or refused to believe they had asthma.

A few women considered their pre-existing view of self in appraising their current view. They reported seeing themselves as “strong” and “social” women and they did not want to change that image.

“I always see myself and am viewed by others as a strong woman. I will not allow asthma to change that view.” (Ameera, T)

They demonstrated that presenting a positive view of self as mother, wife, and housewife was important for them to convince themselves that asthma was not controlling them.

“I will never give asthma a chance to change my view of myself. I am who I am with or without asthma. I control my life, not asthma.” (Rahma, P)

A few women described their assurance of being capable of performing their roles as mothers and wives. Presenting themselves as well-performing, capable women helped them to avoid discrediting themselves. Instead, they claimed that the experience of asthma had made them stronger than before.

“At some point, every woman had suffered from tiredness and weakness due to different reasons. That does not mean they are not normal. Being able to fight and control the disease is not something easy, and not everybody can do it. So how does this make me weak?” (Nawal, P)

It is noteworthy that most of the women in this group hired a housemaid after their diagnosis of asthma. All of them described having a supportive family, especially their husband, and some had a relative in the family who had asthma. None of them was diagnosed with severe asthma or had frequent asthma attacks. All these factors contributed to the women’s views of their capabilities in performing their activities, duties, and roles.

“I still see myself as a normal woman. As a mother and wife, I can do my duties as usual. My family supports me.” (Zakiya, P)
Women in this group were able to reconcile their identity of “being asthmatic” with their other social identities. This seemed strongly connected with their personality and their sense of self.

Overall, the amount of support the women received from their families, social networks and the healthcare team shaped their views of themselves. It was interesting to learn that some of those who failed to preserve an image of themselves as a normal woman conveyed receiving a lack of support from their families and network groups.

“I don’t have anybody to help me in doing my house duties.” (Munira, P)

However, a few women described a conflict between the need for support and preserving their image as a normal woman.

“I want somebody to support me, but I don’t want them to feel pity for me and to see me as a sick woman.” (Ahlan, T)

In conclusion, the women in this study considered their perceptions of the impact of asthma on their functional abilities to be normal women when evaluating their self-worth.

6.3 Summary

This chapter considered data about the women’s perception of the disruptions asthma caused to various aspects of their and their families’ lives. The duties of wife and mother were their main priority and they saw these as negatively affected by asthma. Central to the process of how the women valued themselves was the continuous comparison they made between themselves and others within their social environment. That comparison was considered important for the women and frequently caused them to view themselves as deviating from the norm because of their asthma. This led to women expressing negative emotions and a negative sense of self-worth. The women were influenced by religious, cultural and societal expectations when evaluating their self-worth. The next chapter explores the women’s attitudes towards treatment choices in managing their asthma.
CHAPTER SEVEN
WOMEN’S DECISIONS IN MANAGING ASTHMA
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WOMEN’S DECISIONS IN MANAGING ASTHMA

7.1 Introduction

This chapter demonstrates how the women in this study managed and incorporated asthma into their lives. It highlights the various social and cultural factors that shaped the women’s decisions in managing their asthma, as well as in perceiving and using their asthma treatment (Figure 7.1).

Figure 7.1: Category three: Women’s decisions in managing asthma

7.2 Women incorporating asthma into their daily lives

Most of the women showed a high level of awareness of factors that might provoke their asthma, as described in section 5.2.5. They also highlighted their difficulties in avoiding those factors, especially the indoor allergens that they regarded as part of their daily life. However, when considering their circumstances and social settings, the women reported six main strategies that helped them to mitigate the impact of asthma on their lives: modifying behaviour, mobilising resources, withdrawing from others, positive thinking, keeping their thoughts away from asthma, and practising religious beliefs. Many of them verbalised using a trial-and-error strategy in deciding ways to live with asthma. The family role seemed to be a major factor influencing and supporting the women to incorporate asthma into their lives.
Modifying behaviour was the most common strategy reported by most of the women in this study. Many women, especially those who were housewives, reported practising pacing their activities, especially when performing household duties.

“I divide my housework.” (Siham, P)

The majority of the women learned through personal experience how to manipulate their behaviour to minimise their risk of experiencing an asthma attack. The women’s accounts revealed the ways they modified their behaviour in performing their domestic activities to avoid provoking symptoms and thus reducing the impact of asthma on their life.

“I cut the vegetables; put all the ingredients and spices. I go outside the kitchen until it is ready.” (Naeema, P)

“I wear a mask when I clean, cook or do bakhour.” (Souad, P)

A substantial number of women tended to reduce and sometimes even stop activities they perceived as provoking their asthma. When they knew that one of their traditions, such as using bakhour, triggered their asthma, all of them reported modifying their behaviour, such as by reducing the number of times, using different types of bakhour, or asking a family member to do it while they were outside.

“We do not use strong bakhour any more.” (Huda, T)

“I do not do bakhour, my daughter does. We do not use it much.” (Maymoona, P)

However, when I enquired about the possibility of ceasing an activity completely, such as the use of bakhour, the majority did not consider this, as it is one of their cultural traditions.

“Not to do bakhour at all is not possible. It is part of our tradition and important in our special occasions.” (Aseela, T)

Mobilising resources was the second managing strategy used by several women in this study. It included modifying the layout of the house, hiring a housemaid, and teaching family members how to help with household duties. Among these three behaviours, hiring a housemaid was the most common.

“The housemaid does the house duties, which minimised the interruption caused by my asthma in my family’s life.” (Ameera, T)

Even when the women were mobilising their resources, they considered their families more than their worries about experiencing asthma attacks. This option was not available
to all women. For instance, hiring a housemaid or buying an automatic washing machine was not possible for some women.

In addition to the women’s modifications of their domestic duties, all of them reported some change to their social life. They tended to restrict their lifestyle by withdrawing themselves from social activities. While the majority mentioned limiting the time they spent in social gatherings, a minority decided to stop attending.

“Attending and sharing events with our families and neighbours is part of our obligation, as you know. However, I do not attend all gatherings as usual.” (Khawther, T)

“I stay for a short time only.” (Maymoona, P)

This isolation was seen as a strategy for avoiding stigma, as discussed in section 5.2.5. In addition to their desire to avoid triggers, the women attributed their social isolation to their doubts regarding how people might think and react to their asthma. They also described worries about being misjudged by others and wished to avoid feeling embarrassed due to their symptoms or treatment. Overall, they wanted to avoid feeling weak and being labelled as a “sick woman” and, therefore, being or feeling stigmatised.

A minority described practising the strategy of positive thinking.

“I always assure myself that there is a treatment and it is not something dangerous. This positivity in thinking about asthma helps me to live with it.” (Wafa, P)

A few of the women reported a preference for not thinking about asthma. They viewed this approach as a good way to distract their negative thoughts about asthma. All the women in this group have severe asthma.

“I try my best to forget about asthma. I like to go out for a picnic, shopping or visiting somebody. I go for a walk with my husband and daughters.” (Zakiya, P)

The women in the above two groups believed that practising positive thinking and not thinking about asthma provided them with the strength to face asthma and incorporate it into their lives.

Religious practices were seen as sources of relaxation, being positive and providing mental peace from thinking about asthma. Many women resorted to religious practices, mostly praying and reading the Holy Quran, when experiencing asthma symptoms. All the women reported being encouraged by family members to carry out these practices.

“Reading the Holy Quran helps me to relax and forget about asthma.” (Azza, T)
“When I suffer from asthma, my mother asks me to wash and pray, and read the Quran.” (Noor, T)

In several areas of the findings chapters, the women’s accounts highlight the negative influence of family on the women’s experience of living with and managing their asthma. However, for many women, living with asthma seemed possible with the help of their family. The majority of women expressed their gratitude for having a supportive and caring family. Among the family members, the majority considered their husband a great source of support in living with asthma. The family provided strong support in the women’s lives, including physical and emotional assistance.

“When I am sick, they take care of my children and do the house duties.” (Naeema, P)

“We live away from our families. I have to do the house duties by myself.” (Abeer, T)

All six women who lived near their extended families reported that their family supported them in carrying out their activities of daily living and domestic duties, which reduced the sense of burden from their asthma. Chapter six showed how many of the women in this study felt burdened and that their asthma disrupted their lives. Those accounts were given mostly by the women who lived away from their extended families.

The family role in providing emotional support was apparent throughout the accounts of the majority of the women in this study. Emotional support included the presence of the family in socialising and distracting the women from thinking about their asthma.

“My family helps me to live with asthma. They surround me with their care and love.” (Maymoona, P)

Several women stated being encouraged by their family members, especially their husband, to relax and try to enjoy their life and to forget about asthma.

“My husband tries to keep my thoughts away from asthma by going outside or doing something together.” (Ameera, T)

The family’s physical and emotional support helped the women accept themselves and their asthma. It re-shaped the meaning of their asthma, which eventually smoothed their efforts in incorporating asthma into their lives. Psychological support provided them with the power and confidence in their abilities to live with asthma.

“My family support increased my confidence that I am going to be better and can fight against asthma and win the war against it.” (Moza, T)
A few women appreciated the effort of their families to educate them about asthma.

“My daughter always reads about asthma and alerts me to anything that might start my symptoms.” (Aseela, T)

Furthermore, social support from outside the family, such as from neighbours, HCPs and employers, had helped the women to incorporate asthma into their lives. A few women reported enjoying the support system from neighbours regarding physical and emotional support and maintaining a social identity.

“When I am sick, they [neighbours] alternate in coming to my house to help me with my housework. They are a great source of help to live with my asthma. This is part of our social duty, as you know.” (Munira, P)

“I never felt that my neighbours see me differently than them.” (Sheikha, T)

Almost half the women valued professional relationships and support. They appreciated the effort of HCPs in being clear with them about their illness and in providing the necessary health education. They also showed gratitude for the support HCPs provided to them at the moment of their diagnosis.

“Shealth team members in the asthma clinic are supportive and helpful.” (Aneesa, P)

Only two women had the support of their employer in dealing with their asthma. This could be linked to most of the women in this study who were working reported, for several perceived reasons, concealing their asthma in their working environment. They expressed their concern about not being understood and supported.

“My director and my colleagues are supportive.” (Nawal, P)

The preceding discussion suggests the importance of social networks, including family, neighbours, employers and HCPs, in helping the women to deal and live with asthma. The women appreciated the help of their social networks in carrying out domestic roles and providing emotional support and information. The narration here is in contrast with the views the women expressed earlier on the negative effects of social networks, such as spreading rumours about asthma and its treatment and the attitude some of the social group had towards using inhalers.

The cultural tradition and religious beliefs of the women and the expectations of their social context seemed to have implications for how they chose to live with asthma. In living with asthma, their accounts featured their concerns for their families and avoiding stigma, more than their worries about experiencing asthma attacks.
7.3 Women’s asthma management choices

The women in this study responded to their asthma by either using or not using treatments, specifically, inhalers. All of them described relying primarily on medical treatment in managing their asthma. However, they presented various choices in using it. In addition to medical treatment, many women reported using traditional methods. The following sections discuss the various choices the women had for managing their asthma. It is noteworthy that the factors shaping the women’s decisions in managing asthma were sometimes, but not always, the same.

7.3.1 Using medical treatment regularly

Less than half the women reported using medical treatment from the time of diagnosis up to the time of their interviews. The majority of this group had severe asthma.

“I never stopped taking my treatment.” (Zakiya, P)

Several women hoped to be cured of asthma and that their treatment would help them to regain a normal life. They linked their hope of a cure for asthma to the availability of treatment.

“Treatment is important to relieve my symptoms and to free my body from asthma.” (Maymoona, P)

A substantial number of the women held this opinion of the role of treatment, which suggests their perception of asthma as an intermittent illness. It also casts doubt on the effectiveness of the health education provided.

Women who presented a positive perception of asthma and its treatment used inhalers.

“Like any other illnesses, asthma needs treatment.” (Sheikha, T)

A considerable number of women expressed views regarding the benefits of asthma treatment in performing their activities of daily life and their domestic duties.

“Treatment reduces the interruption caused by asthma, helps me to carry out my responsibilities as a mother and wife.” (Khawther, T)

Many women wished to stop using inhalers; however, their fear of suffering severe asthma attacks stopped them. More noticeable was their fear of death. They expressed their worries about leaving their families because of their asthma attacks and hospitalisation if they stopped using their asthma treatment.
“I do not dare to stop my treatment. I have a fear of getting an asthma attack and dying.” (Aseela, T)

“If I stopped the treatment, I would get severe asthma attacks, which mean either hospitalisation or sitting home without being able to take care of my family.” (Souad, P)

These women viewed treatment as a necessity, not a choice. Interestingly, they saw the benefits primarily in terms of their domestic role, rather than for themselves.

A substantial number described having a family, especially a husband, who had a positive attitude towards asthma treatment.

“My husband said it is important to take my treatment.” (Zakiya, P)

Many women stated that the support they received from the healthcare team in the asthma clinic also encouraged them to use the medical treatment available.

“They taught me how treatment would help me if I use them as prescribed.” (Aneesa, T)

Less than one quarter of the women had relatives diagnosed with asthma or other chronic illnesses who used and had experienced effective treatment. Therefore, they were encouraged to use medical treatment.

“Treatment relieved my parents’ symptoms and improved their condition.” (Khawther, T)

Among the women who reported using their treatment regularly, a few conveyed their view of disbelieving the rumours they heard about inhalers.

“I do not believe the rumours about inhalers.” (Aseela, T)

A few women reported their trust in clinicians’ expertise in deciding the treatment for their asthma.

“I used the treatment because my doctor prescribed it to me.” (Maymoona, P)

Such an account describes the respect in which HCPs are held in Oman. This group of women did not seem to disregard the advice of their doctors.

A large minority of the women who reported using asthma treatment believed that taking it was considered part of obeying their religious obligation. They mentioned that their religion instructs them to maintain their health and they viewed taking treatment as part of their compliance with religious instruction.
In conclusion, the women mentioned several factors that influenced their choice to use medical treatment, which included their perception of their asthma, their fear of severe asthma attacks, and the effectiveness of treatment that enabled them to fulfil their domestic roles. More importantly, the family role was a recurrent theme in the women’s accounts, which indicates its strong influence on their choices, especially their husband’s role and support in using the treatment. Women also based their choices on their religion and considered the support offered by their HCPs.

This section discussed the views of the women in the above group regarding reasons for taking treatment regularly. However, taking treatment when they perceived a need was the attitude of most of the women in this study.

**7.3.2 Using medical treatment when needed**

The majority of the women in this study conveyed an attitude of moving along a continuum in their utilisation of treatment, specifically, inhalers. They reported using inhalers when they were experiencing severe symptoms, while ignoring the importance of treatment during the remission phase of symptoms. None of them mentioned using inhalers every day as per medical advice.

Several women described how their perception and understanding of asthma shaped their attitudes towards treatment. Their belief in asthma as a relapsing and intermittent illness seemed to cast away the necessity for using treatment. They reported considering medical treatment when experiencing asthma symptoms, asthma attacks or a common cold. With a common cold, treatment was taken as a precautionary approach to prevent the progression of cold symptoms to an asthma attack.

“I need the inhalers when I have the symptoms or when having a common cold.”

(Nawal, P)

Moreover, the women’s perception and understanding of their asthma treatment had a role in their decision making about using treatment. Many reported stopping using either their reliever or preventer inhaler, or both, when they did not have treatment. Many of them were unaware of the protective effect of the reliever (salbutamol) inhaler and its positive impact on prognosis. Some believed that salbutamol is better than the other type of inhaler, which makes them stop using the preventer inhaler. They expressed the view that they did not find it effective in relieving their symptoms.
“I take my regular inhaler only when I experience severe asthma symptoms, for mild symptoms I take Ventolin. Why take it when I have asthma symptoms?” (Ahlam, T)

The women in this group expressed a worldwide problem, which is a fear of cortisone. They do not seem to understand the role of the various asthma treatments and their importance in relieving their asthma symptoms and preventing attacks. They also did not seem to be aware of the amount of cortisone in their asthma treatment.

“I think Ventolin is stronger than the regular inhaler, which means it contains more cortisone. I do not use it much.” (Ameera, T)

It is noteworthy that some of the women who expressed a fear of cortisone mentioned asking their doctors to change to injection treatment (a low dose of long-term oral steroids or anti-IgE treatment Omalizumab injections).

“I will get better faster with injections and I will not need to take steroids every day, it is once per month only.” (Afrah, T)

Interestingly, most of the women in this group conveyed a more positive attitude to their oral treatment. When I explored their views and attitudes to taking oral treatments, most of them conveyed their commitment to taking them. Many of them were more aware of their oral treatments than the inhalers. These drugs were mostly prednisolone. Most of them confirmed completing their prescribed course of prednisolone. They expressed their happiness at the effectiveness of oral treatment.

“I like this drug [prednisolone]. It is more effective than other treatment. I do not know why my doctor refused to keep me on prednisolone for a long time rather than inhalers.” (Rahma, P)

The discussion of the women in the above group of their various types of treatment showed contradictory statements regarding their concerns about cortisone. The women showed awareness of neither the importance of taking the treatment regularly nor the risks of oral steroids. More specifically, they did not show any awareness of the risks of oral prednisolone. Not knowing their treatments and what they contain might have implications for how they perceived and used asthma treatment. Their accounts raise doubts about the knowledge and understanding they have of their asthma management. The lack of understanding regarding treatment and what it constitutes raises a query about the quality and quantity of the information they have about asthma treatment and other barriers to understanding.
In addition to their perceptions and beliefs about asthma and their attitudes towards various treatments, the women in this group identified issues about their treatment related to being female. Some women expressed doubts about the effect of asthma treatment on pregnancy. Most of the women who experienced asthma during pregnancy reported that they stopped using the treatment. They were uncertain about the effect of inhalers on their pregnancy and their child. The data analysis associated this ambivalent attitude with their lack of information or negative beliefs within the family about inhalers.

“*My asthma doctor told me that the inhaler might affect the baby; however, the gynaecologist told me it does not. I did not know whose advice I should follow. So I stopped using it. I got afraid that it might affect my pregnancy, and this was my first pregnancy.*” (Shamsa, P)

Many women linked their reluctance to take inhalers due to their fear of cortisone to their concern about its medical effects on their bodies. They described inhalers as chemicals that might harm their brain and bones, reduce their immunity, and increase their weight. This view was present despite the accurate understanding some of them had about asthma and its potentially serious effects. Among the various concerns specified by the women, increased weight and hormonal disturbance were the most common.

“*Asthma treatment contains cortisone, which affects hormones and increases body weight.*” (Salwa, P)

Several women demonstrated their worries about cortisone increasing their weight, which they anticipated would harm them physically and psychologically.

“*Increasing weight causes many physical and psychological problems; I am conscious of my weight; I weigh myself almost every week.*” (Ameera, T)

In using medical treatment, women considered their fear of changing their body image if their weight increased and their doubts about how people around them would view them.

“*Obesity is compromising many of the female characters, I’ve always been a slim woman, none of the women in my family are obese, and I am not planning to be the first.*” (Abeer, T)

Moreover, women linked their fear of obesity to its perceived negative effects on their domestic roles as wives and mothers within their family.

“*I can’t leave myself until I get obese; I have a neighbour who is obese. I can’t be like her. I already have asthma, which limits my activities and house duties; I do not want to add another problem to my life.*” (Siham, P)

The fear of losing their femininity and the effect of the treatments on their duties as wives and mothers caused the women to disregard the necessity for the treatment. Women
prioritised their femininity and their domestic duties over their suffering from asthma symptoms. They also conveyed their fear of being stigmatised for being obese.

In chapter six, several women perceived changes in their menstrual cycles when using medical treatment for asthma. They believed that asthma treatment caused hormonal and menstrual changes. They strongly considered this issue in deciding whether and how frequently to use medical treatment. Moreover, they stated their concern about changes in their menstrual period and how they could affect their marital relationship and their opportunities for getting pregnant. However, concerns about hormonal changes were raised even by several married women who did not report experiencing any alteration in their menstrual cycle after taking asthma treatment.

“\textit{Asthma treatment changed my menstrual period. I get menses twice a month. This might affect my relationship with my husband.}” (Munira, P)

“I am afraid that asthma treatment affects my menstrual cycle, I am trying to get pregnant for several months.” (Faiza, P)

Moreover, a minority referred to their perception of their social roles and relationship in deciding their managing strategies.

“I am still young. \textit{Who will marry a woman whose life depends on an inhaler?!}” (Wafa, P)

In her account, Wafa articulated the thoughts of the single women as well as those who reported infertility problems. They referred to their reluctance to use an inhaler to their ability to get married and pregnant and to their concern about the uncertain effects of an inhaler on their future roles as wives and mothers.

A few women believed that using medical treatment, especially inhalers, meant that it controlled their lives, and so might change their view of themselves. They expressed their concern about seeing themselves, or being seen by others, as a weak woman. Their accounts featured their striving to prove to themselves and others that they were still strong and that they had control over their disease without the need for treatment. Their accounts reflect their desire to maintain their self-image.

“I did not want to see myself under the control of an inhaler. I was always a strong woman with a strong personality. I decided to use it only when I have the symptoms.” (Rahma, P)

The women appeared to be denying certain aspects of their disease by not using their treatment. More than half expressed their unwillingness to accept having a chronic illness
that requires them to be in long-term treatment. Their accounts also suggest a refusal to recognize the severity of asthma attacks.

“I hate to say that asthma is a chronic illness. This means that I have to take the medication until the last day of my life. It is not easy to accept such major changes in my life.” (Nawal, P)

Moreover, several women had concerns that using an inhaler in a public area would disclose their illness. Many women in this group expressed concern about the perceived social stigma associated with asthma. They showed their uncertainty of the reaction of their social group to their asthma and its treatment. They were concerned that people around them might view them differently if they knew they had asthma or used an inhaler.

“Taking tablets does not tell people around you what kind of disease you have, but inhalers might tell people that I have a dangerous disease. They might not understand.” (Faiza, P)

A young woman in her first year of college narrated that her not using an asthma inhaler was because she did not want to be seen as different by her colleagues. Not knowing anyone in her classes who had asthma made her feel different.

“I do not take my inhaler in front of others. I do not like people to see me as a not normal person.” (Noor, P)

A woman in her late thirties stated her preference for falling unconscious over using an inhaler in public. Her behaviour reveals her attempt to conceal her illness, which she regarded as a negative attribute of herself.

“I would rather prefer to lose consciousness than take the inhaler in front of others. It is unusual seeing a woman taking an inhaler.” (Halima, P)

Women attributed their fear of stigma to their doubt that people would understand their asthma. Their anxiety regarding the possibility of being stigmatised caused them to hide their asthma or its treatment.

Around one quarter of the women in this study did not view themselves as normal when using asthma treatment. When I probed why they viewed themselves differently, the first explanation came from the definition of a “normal woman” that was given by some of them. This group conveyed their views of themselves as deviating from normality if they took treatment every day and everywhere.

“A normal woman doesn’t take treatment every day and carry treatment everywhere she goes.” (Siham, P)
The second explanation came from their view of an inhaler as a device. More than one third of the women viewed inhalers as being different from other types of treatment; for example, tablets. They saw tablets as a common type of treatment used by many people in their society. According to them, unlike tablets, inhalers produce sounds when used, which draws the attention of others to the person using it. Their accounts featured their strong sense of felt stigma that predisposed them to strive to conceal their illness by not using the treatment available, especially inhalers.

“An inhaler is not like a tablet. It is not easy to take it without anybody noticing you. Everybody will hear me inhaling the medicine from the inhaler. When you take a tablet, nobody can notice you.” (Huda, T)

A few of the women expressed feeling shy or ashamed of using an inhaler. According to them, using an inhaler in public might be offensive to the people around them.

“I guess I am afraid that people might not feel comfortable seeing me taking my inhaler.” (Afrah, T)

It is noteworthy that the women who expressed doubts about other people’s reaction to them reported not knowing anybody with asthma within their social network.

“No woman in my neighbourhood has asthma or uses an inhaler. I found it difficult to use inhalers.” (Salwa, P)

The women wanted to avoid the stigma of being seen as different and deviating from the norm by using an inhaler.

To avoid feeling stigmatised, a few women reported their attitude of tolerating asthma symptoms without using the treatment. They perceived of this strategy as effective in gaining control over their asthma.

“With mild asthma symptoms, I take a rest and try to be away from anything that increases my symptoms. I train my body to deal with mild asthma symptoms without the need for taking the inhalers.” (Wafa, P)

The accounts of the women in this group suggest they strove to normalise themselves during their trials by training their body to tolerate the symptoms of asthma and not using their inhalers.

The role of the family in shaping the women’s attitudes towards their treatment was evident. For around one quarter of the women, the negative perception of their family members influenced their decision regarding the use of medical treatment. First, they were discouraged by the lack of understanding of their family members, especially their
grandmothers and husbands, about asthma and its treatment. A few were actively discouraged by their family members, especially grandmothers, from using their inhalers.

“My grandmother said that if I take the inhaler during pregnancy, my child will have asthma.” (Ahlam, T)

Many described having a relative or friend with asthma who did not comply with the treatment but did not experience frequent asthma attacks. The analysis also showed that most of the women in this group perceived of asthma as an intermittent illness.

“My mother, grandmother and my brother are all not using the inhaler. They are fine. They do not get severe asthma attacks.” (Halima, P)

Moreover, a few women were actively discouraged by their husband from using inhalers, particularly when not experiencing asthma symptoms. They lacked the support of their husband in using asthma treatment, which reflects their and their husband’s lack of understanding of asthma and its treatment.

“My husband said that since I do not get the symptoms frequently, then no need to take treatment every day or to attend asthma follow-up visits.” (Zaynab, P)

A substantial number of women discussed the way in which the rumours that existed in their community created their and their families’ fear of using inhalers. Rumours were a source of fear to the women regarding specific aspects; for instance, addiction, lung enlargement, reduced body immunity, and harming an unborn child, among which addiction was the uppermost concern.

“My mother and grandmother said that inhalers might affect the body; especially the brain. They were saying that if I used the inhaler, I would not be able to live without it. So, I did not use it every day.” (Faiza, P)

More importantly, they discussed the role of social pressure in instilling a fear of inhalers due to rumours. The majority described being discouraged due to rumours by their family members, especially mothers and grandmothers, from using inhalers. They expressed feeling pressured by their family members not to use an inhaler.

“My grandmother insisted that I do not use the inhaler. She strongly believed that inhalers affect the brain and affect pregnancy. She took the inhaler from me.” (Ahlam, T)

Although many women in this group reported receiving education from their healthcare team about asthma treatment, they still had suspicions regarding treatment because of persistent rumours. Even other people with asthma were not helpful in assisting the women
to make a decision about using medical treatment. They expressed their uncertainty about whom to believe.

“Although my doctor explained to me about the inhalers, I was still afraid to use them. I started reading about inhalers and asking other women who used them to their effect. They were between encouragers and discouragers.” (Salwa, P)

The majority described their tendency to seek advice from several resources, such as their families, relatives, friends, other people with asthma, and HCPs. They seemed to look for advice that suited their perceptions and justified their behaviour in using asthma treatment.

“I am not convinced of using inhalers and rumours I heard from my grandmother confirm my suspicions.” (Nawal, P)

On investigating the sources of the rumours, all the women reported that they heard them from senior members of their family, particularly mothers and grandmothers. However, the origin of those rumours was unknown.

“My grandmothers knew them from their mothers also, but nobody knows from where they came at first.” (Munira, P)

Religion was also used as a justification by the women who believed in using an inhaler intermittently. Similar to the women who used an inhaler regularly, women in this group based their asthma-managing decisions on their religious obligations; however, they presented a varied interpretation of that obligation. They disagreed that this obligation was only fulfilled by taking medical treatment.

“Yes, we are obligated by our religion to maintain our health, but it is not only by taking treatment. We obey the religion by searching the various available things we think might help us.” (Nawal, P)

Both women who used medical treatment regularly and those who used it intermittently highlighted similar factors in making their choice of treatment; however, those factors acted differently in the two groups. The perception of asthma and its treatment and the role of family and religion were common factors that were considered by both groups. However, the women in the second group identified specific issues that were related to being a woman. The women’s stories showed how they negotiated their choices in terms of managing asthma and their valued social roles of being a wife and mother. It was evident that their concerns regarding the impact of rumours of the effect of treatment on their pregnancy, body weight, and menstrual cycle were ultimately perceived as affecting their relationship with their husband. Preserving their social roles and relationships and their desire to avoid the feeling of stigma were among the important issues discussed by this
group. More importantly, those concerns were emphasised by the social pressure from their family members as an impact of the rumours that existed in their community.

Many women stated that although they did not use their medical treatment regularly, they did use other kinds of treatment. Despite the variation in the perception the women and their families had regarding the effectiveness of medical treatment for the women’s asthma symptoms, all of them reported also using traditional treatments. The women’s and their families’ perceptions, beliefs and attitudes towards asthma and its treatment influenced their use of medical treatment. Whether the same factors urged the women to consider using traditional treatment is highlighted in the following section. The next section identifies the various traditional treatments used by the women and discusses the factors influencing their choices.

7.3.3 Using traditional treatments

Many women who used treatment when needed believed that management did not solely mean the daily use of medical treatment. They argued that they knew their condition best, which put them in a good position to decide what would help them in managing their asthma.

“Treatment is anything that can relieve my symptoms, and it is not only medical treatment.” (Nawal, P)

Most women described using one or more traditional treatments in addition to their medical treatment. However, a few stated using only traditional treatments to manage mild symptoms of asthma. The traditional treatments used by the women included home remedies, frankincense, religious practices and wasam. The majority of them reported using home remedies to treat their asthma symptoms. These remedies included mixtures of cloves and warm water, honey and black seeds (the seeds of Nigella sativa, or black caraway), black seeds and saffron, onion with honey, garlic and thyme, and milk with eggs. Many women also mentioned using warm fluids, such as tea, water with mint, and water with ginger, to relieve their symptoms of asthma. Most women highlighted the benefits of the remedies (black seeds were the most common) mentioned above in relieving their asthma symptoms, especially coughing and secretion.

“My sister asked me to mix honey, cloves and black seeds and to take them in the morning. This mixture reduces my cough and secretion.” (Ameera, T)

“My mother asked me to use a mixture of milk and egg. I took it for six months, and I did not get any attack.” (Wafa, P)
All the women who reported using home remedies commented that they were encouraged to do so by senior people in their family or others with asthma within their social network.

Frankincense was the second most common traditional treatment mentioned by the women. More than one quarter of the women described frankincense as a good reliever of their cough. However, most of them did not perceive it as effective in relieving exacerbation symptoms during asthma attack, in particular, breathing difficulties. The women reported that they mostly learned about frankincense from family members, who either used it or had heard about it in their social network.

“My father used frankincense, and he advised me to use it. It’s good. It removes the secretion from the chest.” (Nawal, P)

“Frankincense does not help with an asthma attack.” (Faiza, P)

The third traditional treatment used by many women in this study involves religious practices. They described how their families recite the Holy Quran to them when they experience asthma symptoms, especially an attack. Some of them reported gaining benefit from this practice, while others stated no major improvement. They also reported that their families consulted spiritual healers to help them deal with asthma symptoms.

“My father took a bottle of oil to a religious man in our neighbourhood and asked him to recite the Holy Quran, especially the Surat that includes the healing recitation. Now when I experience asthma symptoms, I applied some of that oil and massaged my back and chest. Sometimes I feel better.” (Ahlam, T)

The practice of wasam is the last traditional treatment to be discussed and was mentioned by four women in this study, who all reported this was advised and taken by family members. Wasam is used and well known in Arabic countries and is a type of local cautery. It is one of the traditional treatments known since ancient times and is used to treat many illnesses (Farid and El-Mansoury, 2015). Wasam is still used in several African, Asian and Arabic countries. The person’s skin is burned by a hot metallic iron (Karamanoukian et al., 2006), which usually causes a scar. The literature has reported various potential risks and severe complications that are caused by cautery, including infection, septic shock and third-degree burns (Raza et al., 2009). The women who used wasam were of various ages and levels of education. While three were diagnosed with severe asthma, one had moderate persistent asthma.

“I tried wasam to treat my asthma.” (Nawal, P)

When inquiring further about the exact reason for having wasam performed, the women stated that senior people in their family or social network recommended it. According to
them, it was well known in their community that *wasam* is good for people who experience drops in blood oxygen level. Of the four women who used *wasam*, three reported perceived benefits.

“My grandmother took me to an old lady in our town. She did two wasam at each side of my neck.” (Sheikha, T)

Again, the family role was considered to be a major key in encouraging the women to try using *wasam* to treat their asthma. Moreover, the effectiveness of the treatments in relieving the symptoms of asthma and mitigating their impacts on their lives was also considered by the women.

“I did not get severe attacks since I did wasam.” (Huda, T)

“After doing wasam, I could do my duties without getting easily tired like before.” (Nawal, P)

A few women reported their fear of chemicals and their preference for ‘natural’ remedies.

“Medical treatments are chemicals and harm our bodies. Having chronic illness does not mean leaving myself with the chemical product.” (Moza, T)

The women considered their religious obligation of maintaining health and managing illness when making a decision about their treatment choices. The women’s religion (Islam) also played a role in shaping their thoughts, perceptions and attitudes towards their treatment. Despite the variation in the women’s attitudes to using asthma treatment, all of them conveyed a religious obligation to take care of their health by treating their condition.

“I am obligated as a Muslim to take care of myself and to do my best to preserve my health.” (Azza, T)

Cultural, religious and social roles and expectations guided several of the women in deciding how to manage their asthma. They felt they were expected to take care of themselves first to be able to provide care for others, especially their children and husband. While the women who used medical treatment regularly found it helpful in enabling them to fulfil their duties, the majority were against its regular use and stated being socially obligated to try and utilise several treatments.

“Religiously and socially I am obligated to keep searching and trying various treatments that would help me in managing my asthma and so help me in carrying out my duties.” (Azza, T)

The influence of the women’s culture, specifically their family belief system, was evident in their choice to use various traditional treatments. It was repeatedly the case that family
advice and even sometimes their pressure to support the use of traditional treatment were prominent.

7.4 Women’s reasons for changing the choice of treatment

Through their personal experiences of suffering from and living with asthma, the women had changed their meaning of asthma illness and then reconsidered their choice of treatment. Experiencing a crisis with asthma or having frequent and severe attacks was the most prominent motivator. Depending on several issues they experienced, and which had been experienced by others within their social network, the women keep shifting their choices and decisions about how to self-manage their asthma.

“I had a severe asthma attack. I felt I was dying that day. After coming out of that crisis, I decided to use my treatment every day.” (Naeema, P)

Women also regarded their personal experience of the effectiveness of treatment in changing decisions regarding their treatment. The effectiveness of medical treatment, especially in reducing the frequency and severity of asthma attacks, motivated them to use it regularly. More importantly, the improvement they experienced in the performance of their domestic duties was seen as a great motivator in changing their attitudes towards their asthma treatment.

“I thought to try using it and see if I get to benefit from it. With treatment, I did not experience many asthma attacks. It helped me in carrying out my usual daily activities and my duties. So, I decided to continue using them.” (Khawla, T)

In contrast, a few women expressed their disappointment at not receiving the expected benefits from a treatment, despite using it and having avoided triggers for a long period, which shaped their decision not to use the treatment.

“Treatment is supposed to relieve my symptoms. I take my medication exactly as the doctors said but I do not get much benefit. I feel frustrated. I see no reason to take them regularly.” (Zakiya, P)

Their opinion of the effectiveness of treatment might be linked to the women regarding their treatment as a reliever, not a preventer. It was not the concern of this study to gather information regarding the trial period the women gave to their treatment. Therefore, whether the women gave enough time for the treatment to work was not known in this study, which suggests the need for further research on this issue.

“I tried it for enough time. It did not work with me. The status of my asthma was the same.” (Rahma, P)
The support and understanding of family members was another issue considered when women changed their decisions about managing asthma. A number of women stated that the change in their attitude towards their asthma treatment was due to the support and encouragement they received from their family (parents and husband) and social network (friends and neighbours).

One woman in her early thirties described her attitude towards not using an inhaler in front of her husband and husband's family when she was newly married. The fear of her perceived stigma from using the inhaler discouraged her from using it. However, the positive view of the husband and his family about asthma and its treatment motivated her to re-use the inhaler regularly.

“I was wrong about my worries of their misunderstanding. When they knew about my asthma, they were supportive, and they encouraged me to use the inhaler.” (Halima, P)

Another young woman in her twenties reported being supported and encouraged by her friend to use medical treatment.

“My friend said that using inhalers does not make me abnormal or different. I felt relaxed that she understands.” (Noor, T)

With time, many of the women expressed movement in their asthma treatments. They drew on various social and religious assumptions of themselves as women in designing their managing strategies with asthma. They stated several factors that motivated them to change their behaviour towards their treatment.

7.5 Summary
This chapter presented various important findings regarding the women’s experience in living with asthma. The women had a complex relationship with their asthma and its management. Similar to their construction of the meaning of asthma, they structured their managing strategies through their interaction with religious and cultural factors, critical to which was being a woman, specifically in the Omani context. Over time, that social process required them to undergo different degrees of adjustment involving both trial and error. While undergoing this process, they were learning about their limitations. They were also discovering a perception of the social context of their illness and its treatment and themselves, as women, living with asthma. Overall, the decisions and choices they made to mitigate the burden of asthma in their lives indicated their struggle to normalise themselves and maintain face by avoiding the feeling of stigma and being stigmatised. The experience
of the women in this study captured Bury (1982) argument that chronic illness challenges the taken-for-granted activities of an individual’s everyday life. Being diagnosed with chronic illness disrupts the normal rules of the family and requires individuals to reconstruct their biography and mobilise their resources within their social context. In short, Bury (1982) suggested that chronic illness enters a life which was free of problems and causes a disconnect between self, body and society.

The discussion in this chapter repeatedly revealed positive and negative influences of the women’s families and social networks on shaping their attitudes and behaviour towards asthma treatment and in living with asthma. Although several women appreciated the support they received from their families and social networks, many reported being burdened with asthma, experiencing stigma, and receiving false information and advice about asthma and its treatments. The women made conscious choices, based on a range of factors in their lives, about whether or not to use their medication. In most cases, multiple issues were presented, rather than a single isolated factor. When considering all the influences, the women moved along a continuum of using various asthma-managing strategies. Throughout their narratives, the role of nurses in facilitating and shaping the women’s choices regarding how to incorporate asthma into their lives and what treatment they chose was absent. Why this was the case warrants further exploration.

This chapter highlighted how women managed and incorporated asthma in their lives. The next and final findings chapter describes their experiences in seeking various healthcare services. It also provides insight into their choices of medical help to manage their asthma.
CHAPTER EIGHT
WOMEN’S CHOICE OF HEALTHCARE SERVICES
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8.1 Introduction

This chapter illustrates how women made choices about which healthcare services to access. It provides insights into the various explanations the women gave for their choices when managing their asthma. It also gives a sense of the women’s information needs and how government health services met or did not meet those needs. Figure 8.1 illustrates the four sub-categories of this category. Descriptors are provided for two sub-categories. Women’s views on government services and their health education needs were similar to the findings of other studies and not unique to Oman and are not, therefore, addressed in detail within the thesis.
Figure 8.1: Category four: Women’s choice of healthcare services
8.2 Women’s reasons for first seeking medical help

The women used a variety of government and private health services. They also accessed traditional remedies. The majority reported seeking government services for their initial asthma diagnosis. This section explores the reasons women gave for first deciding to seek medical help.

In chapter seven, the fear of death was one explanation women gave for using their medical treatment on a daily basis. They also gave their fear of death as a reason for first deciding to seek medical help. Experiencing severe symptoms persuaded a substantial number of the women to seek medical help initially. They linked their experience of a sudden and acute onset of symptoms with their fear of death and considered that these symptoms required them to seek urgent medical help.

“I thought I would die, I had to come to the hospital.” (Sheikha, T)

Their fear of death could be linked partially to their belief that asthma was a dangerous illness, as presented in chapter five.

“Asthma is dangerous. That’s why I immediately go to the health centre.” (Abeer, T)

Being pregnant and, at the same time, experiencing severe asthma symptoms persuaded a few women to seek medical help. A few experienced asthma symptoms for the first time during pregnancy. Their concerns about their pregnancy and not losing the unborn child were important reasons for their decision.

“I got worried about my pregnancy, I spoke to my obstetrician, and she referred me to the asthma clinic.” (Ahlam, T)

A few women had also experienced asthma symptoms during their previous pregnancy. They spoke of their fear of death.

“I knew how severe and dangerous asthma is during pregnancy. I had to come to the hospital for treatment.” (Abeer, T)

That the onset of asthma coincided with public anxieties about bird flu was a contributing reason to one woman deciding to seek medical help. Her concern was heightened by being pregnant, which generated fears that she might lose her child.

“I started experiencing breathing difficulty and continuous cough when bird flu was there. My family and I were worried that I might have bird flu...I was pregnant. I was worried about my child and what could happen to him. Also, I was
worried abouttransmitting that disease to my family. It was beyond me, and what
could happen to me, it is about my child." (Ameera, T)

Ameera showed that her concerns about pregnancy and the unborn child were uppermost
in her mind. She spoke of her responsibilities to protect her pregnancy and her family from
transmitting an infectious disease to them. Thus, her sense of obligation towards her
unborn child was the primary influence on her decision to seek medical help.

Women in this study used their religious faith to justify their various choices about using
medical help. Considering that all of them believed that Allah gives health and illness, they
all stated that they felt obligated by Islam to preserve their health. However, only a
minority of women thought that this obligation should be fulfilled by seeking medical help.
The majority thought that this obligation could be fulfilled by using other non-medical
treatments. The latter group used their religion to justify seeking traditional remedies for
their asthma, as the coming sections will show.

“Islam instructs us to take care of our health and to search for treatment to
minimise the suffering. When I know that there is a treatment available for my
condition, then I have to try it.” (Wafa, P)

A minority of women reported that their family influenced their decision about initially
seeking medical help. For these women, the influence of family and particularly the
authority of the women's husband were decisive when the women made choices about
seeking medical help.

“My symptoms were not severe, but my husband insisted that I go to the hospital.”
(Khawla, T)

The preceding narratives suggest that the women were not always the primary person to
decide the initial use of help. In addition to the severity of asthma symptoms, the women
based their decision on religious and cultural expectations. The attitudes of authority
figures in their families frequently influenced their choices.

8.3 Women's reasons for delaying first seeking medical help

Chapter five showed that a large minority of women believed that asthma was a short-term
or intermittent illness that could resolve or go into remission after some time. According to
them, this belief negated the necessity for seeking medical help. They reported
experiencing mild symptoms at the onset of asthma which they suggested could be treated
with home remedies. This group downplayed the severity of their asthma.
“The symptoms were not severe, they were tolerable and could go by home remedies.” (Souad, P)

In contrast, the fear of asthma as a severe illness that they did not want to confront deterred another small group of women from deciding to seek medical help.

“I think my fear of confirming asthma hindered me in seeking medical help.” (Moza, T)

For these women, fear of being stigmatised and being confronted with a severe illness seemed to be interrelated. For example, the following participant conveyed her fear of being seen as different, as she described the negative way her society had viewed her mother's asthma. She suggested that this had caused her to delay seeking medical help.

“They looked displeased seeing her coughing and spitting secretion into tissues. I did not want to go to the hospital because I was afraid that I would get diagnosed with asthma and so people view me the way they viewed my mother.” (Halima, P)

Another woman delayed help-seeking because of her fear of having an infectious disease (tuberculosis in this case) and her anxiety about how her family and other people would view her. She demonstrated her concerns about confronting a serious disease and her worries about disclosing negative news.

“I did not want to go to the hospital because I thought I had tuberculosis like my neighbour. I was scared that I might have this disease. I had a fear of transferring that serious disease to my family. I kept thinking how others will look at me when they know I have tuberculosis.” (Rahma, P)

I believed there might be a reason for Rahma becoming concerned about how people in her community might view her as a woman with tuberculosis, for instance, and why she had this negative thought. I found it important to explore her view of how she thinks her community looked at the woman she knew with tuberculosis and her response was:

“Our community, unfortunately, tended to avoid people with an infectious disease, like that woman who had tuberculosis. Few women in our neighbourhood visited her. They were afraid of getting the disease. I don’t want to be in that situation where I feel isolated from others.” (Rahma, P)

Rahma’s experience was not an isolated one. I probed several women about their perception of how their community views people with an infectious disease, such as tuberculosis, and almost all of them conveyed similar beliefs to Rahma. This indicates scope for improvement in health education that is community orientated.

In conclusion, the women described five barriers delaying their use of medical help. The two most common reasons were their misperception of asthma, followed by the influence
of the family. In chapter seven, family influence and fear of stigma shaped the women’s attitudes towards their asthma treatment. These two factors were also reported to shape their decision of whether to engage with healthcare services. I examine this issue further in the discussion chapter.

The preceding discussions highlight the reasons and barriers that women considered when first deciding to seek medical help. The following two sections discuss the reasons and barriers women considered when making a decision of whether to attend follow-up visits.

8.4 Women's reasons for regular attendance at follow-up clinics

Around one third of the women reported attending follow-up visits regularly since the time of their diagnosis. They discussed five reasons for deciding to do so.

The majority stated that experiencing frequent asthma attacks compels them to continue using medical help. The following extract is a typical response from participants about this issue.

“I had frequent and severe attacks.” (Abeer, T)

Another common reason women gave for continuing to seek medical help was the interference of asthma symptoms in their domestic roles.

“The symptoms limited my performance in carrying out my activities and my housework.” (Azza, T)

The concern of women about their pregnancy and the risk of losing their child influenced them to seek initial help and then attend follow-up visits regularly. Most of the women described experiencing symptom exacerbations with the progression of their pregnancy that raised their fear of losing their child and caused them to continue using medical help.

“I was concerned that asthma harms my child. This is another life inside me, and by my religion and culture, I am responsible for my child. That is why I attended my follow-ups.” (Ahlam, T)

A few women stated that asthma limited the fulfilment of their other social obligations and this persuaded them to continue to attend follow-up clinics regularly.

“Asthma affected my social life. I have a duty and obligation to my family, relatives and friends. I can’t just apologise for not attending their social events. Being together and sharing the happiness and sadness moments is important in my family.” (Munira, P)
Just as they had an effect on their initial decision to seek help, families also influenced a few women to continue using medical help regularly. The authority of the women's husband and father was decisive when the women made choices about continuing their follow-up visits.

“Although I did not see the need to go every time, my father insisted that I always attend my appointment.” (Zaynab, P)

The reasons for women continuing treatment were similar to those for first seeking help and included severe asthma symptoms, family influences, and concerns about risks to pregnancy. The women also considered the impact of asthma on their domestic and social duties when deciding whether to continue using follow-up services.

8.5 Women's reasons for irregular attendance at follow-up clinics

Two thirds of the women reported frequently missing appointments and attending follow-up clinics irregularly. They reported some difficulties that affected their attendance and various factors that they saw as barriers to attending follow-up visits. These barriers are discussed sequentially from the most to the least common, as considered by the women.

The issue of transportation was the most common barrier to attending follow-up clinics described by the participants. This barrier was first described by women who were recruited from the tertiary hospital, as most had travelled long distances to the hospital from various governorates in Oman. They considered that the distances they and their families travelled to attend the follow-up appointment were too long. Of the 13 women recruited from this setting, six had a driving licence. However, only two women reported coming to their appointment by themselves. A few women stated that the distance from their home to the hospital made it difficult.

“My area is far from here.” (Huda, T)

Some women reported living in the capital city of Muscat, yet they still reported facing difficulties travelling to asthma follow-up visits. They did not drive or a car was not available. Similarly, around two thirds of those recruited from the primary health centres shared concerns about transportation. Not driving was the main explanation for the women in these groups.

“I have a licence, but I don’t have a car.” (Afrah, T)

“I don’t drive.” (Naeema, P)
I probed regarding the possibility of using public transport. However, the women considered this choice unacceptable. According to them, the idea that women could use public transport was not welcomed, either culturally or religiously. Section 1.10.3 discusses the use of public transportation in Oman.

“My family will never accept me using the public transportation.” (Ameera, T)

More than half the women reported being brought to appointments by their family, especially their husband.

“My husband brings me to the hospital.” (Azza, T)

Several women reported that they tended to skip their appointment when their family, especially the husband, was not available to take them.

“When my husband is not available, I either change the appointment or skip it.” (Souad, P)

It was at this point that the second common barrier, fear of burdening family members, particularly the husband, emerged. In chapter seven, women described their fear and anxiety about burdening their husband with their symptoms and their inability to perform their domestic roles. Here, the women discussed how that fear of burdening their husband caused them to miss follow-up appointments. The majority expressed their concerns about burdening their husband with their frequent follow-up visits.

“My husband brings me to my appointment. I am troubling him with me every time I have an appointment.” (Aseela, T)

Again, this concern was expressed first by the women recruited from the institutions in the capital city, where more than half had severe asthma, travel distances were often long, and the majority had either monthly or bi-monthly appointments. No major difference was seen between the working and non-working women with regard to this concern.

When probed, the women (mostly housewives) in the regional institution had the same concern. However, a difference was seen between the working and non-working women in this group. This could be explained by all the women who worked drove and had a car. Moreover, there was a short distance between their work/home and the healthcare institution (a maximum of 15 minutes).

“It depends on my husband’s free time; I don’t drive.” (Siham, P)

The specific fear of causing problems to the husband in his work discouraged a few women from attending their follow-up visits.
“My husband brings me to my appointment, he has to take leave, you see I don’t have a job to help him, I am afraid that my regular appointments cause him a problem in his job.” (Khawla, T)

I probed the women as to whether their husbands complained about their regular follow-up visits to the clinic and none of them responded.

“He never talked about this issue; it is all in my mind only.” (Shamsa, P)

Since the husbands did not discuss this issue with their wives, I was curious to know why these women felt those concerns. I decided to probe them about it and their responses revealed the third barrier to maintaining follow-up visits.

More important than concerns about burdening their husband was the women’s fear of being seen as abnormal or sick by their husband or others. Around one third of the women feared that regular attendance at clinics might place them at risk of being stigmatised by their husband, who might start to see them as “not normal” or as a “sick woman”. They conveyed their worries about experiencing enacted stigma.

“I am afraid that my treatment and the constant needs of attending the hospital will change my husband’s view of me as a normal woman. Although he never mentioned it, I always think that he sees me a sick woman.” (Sharifa, T)

For instance, the fear of being seen as “very sick” caused this woman not to attend follow-up clinics. Faiza suggested that her problems with infertility heightened this concern and that she wanted to preserve her picture of herself as a woman but this seemed to be degraded by her infertility.

“Attending the follow-up visits might convey to my husband that I am very sick, especially that I am not able to have children up to this time. We are already going monthly for my infertility; imagine how many times I am coming to the hospital? Do you think this is good for me as a woman? I don’t think so.” (Faiza, P)

In Islamic society, including Oman, a man has a right to remarry (Hassouneh-Phillips, 2001). A few women spoke of their fear that their husband could seek a second wife.

“Going to the hospital many times might convey to my husband and his family that I am sick, and so that might encourage him to remarry, I don’t have the right to stop him, as you know.” (Rahma, P)

The concern about being seen as a “sick woman” or a “not normal woman” by their husband if they continually needed to use healthcare services raised anxieties and insecurities among several women about disrupting their relationship with their husband. This, in turn, could be one of the explanations why the women devalued themselves as women, as discussed in chapter six.
In the above narratives, women spoke of their worries about being seen as “weak”, “sick” and “different” by their husband and how that could alter their marital relationship. The following section illustrates two further issues: their fear of not being able to fulfil their responsibilities at work or school and being at risk of dismissal, and their fear about what colleagues think about them. Although the two issues overlap, they differ slightly, as shown below.

More than half the women in work/college mentioned their need to take a day’s leave from their job/college to attend asthma follow-up visits. Moreover, the women who worked needed to receive permission from their manager to attend the clinic. They often needed a full day’s leave because of the distance to the hospital and the long waiting times during the visits. No major difference was seen between women recruited from the tertiary service and those who attended the primary care institutions and whether women lived near or far from a healthcare institution.

“I am living like one hour away from this hospital. Because of the long waiting time, I take leave from my work. The issue is the long waiting time we take to see the doctor.” (Abeer, T)

More than the long waiting times to see their doctor, their fear of disclosing their asthma shaped the decisions of the women who worked in following up with asthma clinics. Almost half of them suggested that their fear of disclosing their illness hindered them from continuing to use healthcare services, especially for follow-up visits. Exploring their views about disclosing their illness further, they reported their worries of being seen differently during that time. They cited various reasons for deciding to attend follow-up visits. The uppermost reasons included not knowing anybody in the working area who had asthma or another chronic illness; the time since joining the job and their eagerness to prove themselves as a good employee; and their uncertainty about how they would be viewed. The women’s typical responses were:

“None of my colleagues had regular visits to the hospital, why do I need to disclose my illness to them; I don’t know how they will look at me.” (Rahma, P)

“I saw how they dealt with one of my colleagues who had sickle cell anaemia. I heard them talking about her, that she is weak and that she could not complete the work given to her.” (Salwa, P)

“I joined my job recently; I don’t want them to see me different than them. I don’t attend every appointment.” (Aneesa, P)

The women addressed their fear of stigma and social disapproval in work or educational settings. Although being actively stigmatised was not reported in this study, they did report
observing other people being stigmatised. They reported observing stigma either towards people with asthma or with other chronic illnesses.

Earlier in this chapter, the women’s accounts regarding the interference of their illness in their domestic roles were given in relation to deciding to initiate and continue using medical help. The interference of medical appointments with the same domestic roles was also cited as a barrier to continuing with follow-up visits. Around one third of the women perceived the precedence of domestic roles over the medical management of their illness as a reason to defer attendance at follow-up clinics. This issue was mainly demonstrated by married women and, more specifically, housewives who are also mothers.

“I missed around four appointments last year due to my children’s sickness and other family commitments.” (Rahma, P)

“My children were on school vacation, and we planned to go for a picnic that day, so I skipped the appointment.” (Khawla, T)

“I had guests on that day, I couldn’t attend the appointment.” (Aseela, T)

The women provided several explanations for missing appointments. They considered their various family and social commitments as logical reasons to disregard their need to attend appointments.

The preceding discussions highlighted the various facilitators, and barriers, women considered when initially seeking help and when deciding whether to continue using follow-up services. Overall, the facilitators and barriers that affected women’s decision to seek help initially were sometimes, but not always, the same, which affected their decisions about continuing follow-up treatment. For instance, burdening their husband and their fear of being seen differently by their husband were major barriers that shaped the women’s attitudes towards their follow-up visits.

The women used their social and religious obligations to justify their very different behaviours when choosing how to deal with and manage their asthma and which services to seek. They gave priority to social, cultural and religious expectations when making decisions about attending their regular follow-up appointments. The fear of being stigmatised was a common factor in delaying their initial use of services and affected their use of follow-up services.

The decision-making process most of the women in this study undertook did not seem linear. When first deciding to seek medical help and when considering whether to then maintain follow-up visits, the women considered various facilitators and barriers related to
their social circumstances. Appendix 27 provides examples of the different pathways women took while trying to balance these factors.

8.6 Women’s choice of help

The background chapter (chapter one) described the services and organisational structures that are available to women with asthma in Oman. Within this particular sample, the women chose between government and private services and traditional remedies when deciding how to manage their asthma. Among those three types of services, I probed the women on the one they used most frequently to manage their asthma. The women’s responses revealed that alternating between the various services available within their context was the commonest pattern of use. However, for most, they chose government services for managing acute asthma attacks. Moreover, most of the women reported that they had initially sought help from government healthcare institutions and this was where they received their diagnosis of asthma.

“I got diagnosed with asthma in our regional hospital.” (Sharifa, T)

However, the proportion of women who attended government institutions after their initial diagnosis of asthma changed substantially. Many women described seeking private services for treatment during the year after their diagnosis of asthma.

“I go to a private clinic that is near to my house.” (Faiza, P)

Only a few women described solely using government services for their asthma treatment, two of whom had mild asthma symptoms at the time of diagnosis, while the third woman had severe asthma.

“I am getting my treatment from this health centre since I got diagnosed, I did not try any other services.” (Maymoona, P)

About one quarter of the women reported depending on traditional remedies after their diagnosis of asthma.

“I did not even go for the second appointment. A woman in my local area treated me by massaging my chest and back with warm oil, and sometimes she asks me to drink it.” (Zaynab, P)

Many women reported alternating between the various services. They described various times and circumstances when they moved between services.

“During the first five years with asthma, I almost tried everything anybody was telling me. I used many treatments from various governmental and private hospitals and tried many home remedies.” (Rahma, P)
The women’s limited understanding of asthma and its treatment is one possible reason for their tendency to move around between various treatment and services.

“I manage the mild day-to-day symptoms by home remedies, but when I get an asthma attack, I immediately go to the hospital emergency department.” (Zakiya, P)

Many women used various services for the daily management of their asthma and only used government services for acute attacks or crises. Not using the prescribed medical treatment daily but only during crises might explain their frequent use of the emergency services.

Around half the women reported that they tended to reduce their moving between services over time and as their attacks became less frequent, while several even stopped using services other than the ones offered by the government.

“For a long time, I didn’t go to the private clinic. I also did not use traditional remedies. I follow up in the asthma clinic. I take my inhalers regularly, and I found them good in relieving my symptoms.” (Aneesa, P)

In conclusion, the women in this study recognised the availability of the various services in managing their asthma. They demonstrated a tendency to move around between the various available services to mitigate the impact of asthma in the early years after diagnosis. However, after trying various services, it was apparent that many of the women eventually considered the government healthcare services as their choice in managing their asthma. Section 8.7.3 discusses women’s reasons for returning to government services.

This section discussed the women’s utilisation of the various available services in managing their asthma. It is important to understand how and why the women made their decisions about using those services and what influenced their choices at various points in time. The following section describes the various health services the women used and provides a sense of the frequency of their utilisation.

8.7 Women’s perceived reasons for treatment choices

The women articulated specific reasons for why they did or did not use a particular type of healthcare service and why they preferred one over another. It was interesting to note that the same sorts of reasons women gave for their decision to seek treatment also seemed to affect the kind of services they chose.
Most of the women received their initial diagnosis of asthma from a government healthcare institution. Almost all of them reported making some use of private healthcare services, particularly during the first year after diagnosis. However, the majority reported returning to government healthcare institutions. Studies on the use of private healthcare services by the Omani population in general and women in particular were not available.

The following sections present the main factors the women considered when making their decision about whether to use government health services.

8.7.1 Reasons for staying with government services
Acceptance of having asthma facilitated a few women’s satisfaction with government healthcare services.

“I have asthma, and I am receiving the proper treatment for it.” (Moza, T)

Experiencing effective treatment was one of the major factors considered by a few of the women diagnosed with severe asthma.

“The treatments I get relieve my symptoms.” (Sharifa, T)

Two women mentioned being unable to afford private treatment when deciding to seek healthcare services. They were among those who stayed with the government services. As outlined in the background chapter, public healthcare services in Oman are free.

“I am a housewife, my husband’s salary is not high; we cannot afford the cost of the private hospital.” (Afrah, T)

8.7.2 Reasons for leaving government services
The various perceptions the women had of asthma and its treatment guided their choice of healthcare services. The most frequent reason cited by the women was related to their perception of asthma. Chapter five discussed how, following the first shocking news, the majority of the women did not want to believe in a diagnosis of asthma. Their disbelief in the diagnosis guided them to leave government services and look for a different diagnosis from a private hospital in Oman or to travel overseas.

“I went to India and Thailand hoping to hear something else, not a chronic illness.” (Nawal, P)

Even some women who were satisfied with the government services found that family distrust in the diagnosis pressurised them to use private services in the search for a different diagnosis.
“My husband decided to take me to India for treatment. He wanted to make sure of the diagnosis given to me here.” (Azza, T)

Several women also denied the seriousness of their asthma and perceived it as a short-term illness that was not severe.

“Asthma is not dangerous like cancer.” (Shamsa, P)

In addition to the women’s beliefs about asthma and their perception of asthma treatment, they specifically considered the use of corticosteroids when making their choice of treatment. Fear of using cortisone concerned some women, especially when newly diagnosed. Believing that the amount of cortisone in the treatment they received from the government healthcare services was high encouraged them to seek treatment from a private hospital.

“In my governorate hospital, they gave me a lot of medication, by which most of them containing cortisone. I thought with my husband to go to another hospital outside the country and try to see if they have a better treatment for my asthma.” (Azza, T)

The above view contrasts with the decision of some women in this study to seek emergency or private care to obtain injections or nebuliser treatment. The women’s lack of understanding of their treatment and, in particular, what their medication contained, could provide some explanation.

The third frequently cited reason reported by a large minority of the women was the lack of improvement in their asthma symptoms, which affected their satisfaction with the treatment received from the government healthcare institutions.

“I use the medication for a long time, and I did not notice any improvement. So, we thought to try a private hospital.” (Huda, T)

All the participants reported receiving prescribed inhalers for their asthma from government services. More than half recounted their preferences for tablets and nebulisers over an inhaler. Chapter seven discussed the fear of being stigmatised by being seen to use an inhaler.

“I went to the private hospital because I wanted to get rid of the inhaler.” (Salwa, P)

Moreover, the perception the women in this group and their families had about the effectiveness of injected treatment in comparison with inhaled treatment also accounted for the decision to seek private healthcare services.
“My mother told me about a private clinic that has a good woman physician. She treats her patients by injection. So I went to that clinic.” (Halima, P)

Around one quarter of the women viewed private services as more convenient for them and they liked the speed of receiving treatment. Moreover, they mentioned using private clinics when the time of their appointment at a government asthma clinic conflicted with their domestic roles.

“Private hospitals are faster in providing the treatment than here. It is difficult to stay a long time waiting to see the doctor. I am leaving my son with my mother-in-law, and I have house duties to carry out. I found it convenient to go to the private clinic.” (Faiza, P)

As shown above, the women’s decision to leave government healthcare services was still related to their domestic roles as wives and mothers.

“I prefer a woman physician” was another prominent factor when exploring the reasons for leaving government services. The preference of several women and their families for being treated by a female physician was another reason for using a private clinic:

“I don’t go to the health centre during the evening time because sometimes doctors are male. I go to a private clinic near to my house which has a woman physician.” (Nawal, P)

The majority of women who preferred a female physician attributed their preference to their religious and cultural backgrounds. A few mentioned that their husband disagreed with his wife being seen by a male doctor when a female physician was available. None of the women who left government services due to their husband’s gender preference for a female physician had severe asthma.

“You know our culture, we feel more comfortable to talk and discuss our issues when the doctor is of our same gender, even if she is not Omani.” (Rahma, P)

“My husband doesn’t like that a male doctor sees me. When the woman physician is available, why to be examined and treated by a male doctor? Such a thing is not welcomed in our religion and our culture.” (Faiza, P)

A few women reported that their desire to avoid social stigma encouraged them to seek private services rather than those offered by the government in managing their asthma.

“When they see me, in the hospital, they will start asking why you are here? I don’t want them to know that I have asthma. They might think of it as dangerous.” (Aneesa, P)

In conclusion, the women had different reasons for deciding to leave government services. It was a recurrent theme that their perception of their asthma and its treatment influenced
their decision to leave government healthcare services. Moreover, the women considered their desire to avoid the stigma of asthma and the negative attitude their family held towards government services when making their decisions about which health services to seek. The least common reason cited was the preference of the women for a female physician. This could be explained by the majority of the women not regarding asthma as a woman’s illness that needed them to expose their body or discuss private issues.

8.7.3 Reasons for returning to government services

Although the women saw the lack of improvement of asthma symptoms as a reason to leave governmental services, this same reason was given by many of them for returning. Many of them revealed not experiencing hoped-for benefits from non-government services.

“I went a few times to a private clinic, but my condition got worse.” (Naeema, P)

As a result of not receiving the benefits they hoped for from private care, a few women showed their concern about not receiving proper and effective treatment from private clinics. This concern was heightened by knowing that the private clinic did not have their full medical history.

“In the private clinic, the doctor gave me an analgesic injection. It exacerbates my condition, and I had to go immediately to the nearest governmental hospital.” (Abeer, T)

“Private clinics do not keep our records. How will they give us the proper treatment? For a long time, I did not go to the private clinic.” (Aseela, T)

Satisfaction with the manner of consultation in the government hospitals encouraged several women to stop moving around between the systems and return to a government health institution.

“I was not convinced of using the inhaler and of coming to the follow-up, especially when I have no symptoms. Their nice way of dealing with me and their care encouraged me to come back and change my mind.” (Nawal, P)

Interestingly, the women in this study articulated similar reasons for both seeking and leaving government healthcare services. Their perception and acceptance of asthma and the effectiveness of the treatment were the most prominent reasons given for staying with and returning to government services. Moreover, their dissatisfaction with the kind of treatment given in private clinics persuaded them to return to the government services.
Despite the women trying various follow-up services, they chose government emergency services for managing asthma attacks. While some private hospitals provide some emergency services, small private clinics do not (Al Dhawi et al., 2007).

The following section describes the women’s use of the emergency services.

8.7.4 Reasons for using the emergency services

The discussion in chapter five highlighted that the majority of the women thought of asthma as an intermittent illness which does not require them to be on daily treatment. Moreover, chapter seven suggested that most of the women did not use their preventer inhaler on a regular basis but only during crises. The majority of them reported using traditional remedies in preference to medical treatment. Women used various choices of medical and traditional remedies in responding to exacerbations.

Many of the women, especially those who were against using their inhaler on a regular basis, for various reasons, described attending the emergency services to manage their asthma attacks.

“I don’t do anything. When I get the symptoms, I go to hospital.” (Rahma, P)

Almost half the women in this study tended to ignore their symptoms in the hope that they would disappear over time. The women showed their preference for ignoring their condition until their asthma symptoms were severe enough to require emergency services, rather than taking their inhalers.

“I thought that if I ignore my symptoms and not think about them, they will not be severe and then I could manage them by any home remedies.” (Nawal, P)

They also linked their behaviour in ignoring their symptoms to their preference for being treated with a nebuliser and injection in the emergency department. Apart from home remedies, the women seemed to prefer nebuliser and injection treatments.

“I prefer to be treated with the injection once in a while, rather than taking the inhaler every day.” (Ahlam, T)

Among this group were also women who believed that nebulisers and injections worked faster than inhalers and so they chose to go to the emergency department. Moreover, the women justified their preference for attending the emergency services by citing rumours in their social network about the harmful effect of inhalers and cortisone, as discussed in section 7.3.2.
More than one third of the women expressed a fear of stigma. They reported that their concern about being seen as “different” by using inhalers hindered their usage, which increased their need to use the emergency services.

“I don’t use the inhaler at gatherings. When I get an asthma attack, I go immediately to the emergency department.” (Halima, P)

As discussed in section 7.3.2, one quarter of the women reported their family’s influence (particularly that of their husband) in discouraging them from using their inhaler regularly. This led to their depending on the emergency services for treating crises.

“My husband encouraged me not to use it. When I get an attack, I go to the emergency department for a nebuliser.” (Khawla, T)

The reasons mentioned above might also provide a partial explanation of why many women were looking for a type of medical treatment other than inhalers in managing their asthma.

“Injection and nebulisation relieve my symptoms fast.” (Wafa, P)

Several women reported nocturnal symptoms which did not subside with inhalers and disrupted their activities of daily living and domestic duties. This encouraged them to use the emergency services at night.

“Sometimes Ventolin does not relieve my symptoms, especially when I have them during the night. They interrupt my sleep badly. So, I go to the emergency department for nebulisation or injection.” (Faiza, P)

“I go to the emergency department when I get an attack at night. They give me injection and nebulisation, and I usually get better, and so by morning I could be there for my children. I do have many things to do in the morning; I had to prepare my children for school and prepare their breakfast.” (Shamsa, P)

A few women recounted using emergency services when they did not have inhalers at the time of experiencing an asthma attack. They cited their family commitments as taking precedence over their attendance at follow-up visits and collecting a treatment.

“That time my children were sick, I got busy with them. I did not attend my asthma appointment, and I did not collect my medication. When I got my asthma symptoms, I went to the emergency department.” (Munira, P)

It is again clear in this section that the women’s domestic duties took precedence over their health. Those duties also influenced the services women chose to seek to mitigate the effect of asthma.

With regard to how the women utilised health services, their use of the emergency services was a major issue. They highlighted various reasons for their frequent use. Not wanting to
use an inhaler regularly was the main reason the women gave that increased their need to attend the emergency services. The different explanations that were given for not using inhalers regularly included family influence, fear of stigma, the perception of asthma as an intermittent condition, their misperceptions of the effectiveness of various asthma treatments, fear of corticosteroids, and other perceived harmful effects of inhalers, such as addiction.

This particular finding could be linked to those in the previous chapters, in which the women reported their lack of understanding of their disease and its treatment. It could also be connected to their preferences for using injection and nebuliser treatments and their tendency to miss follow-up visits. This aspect of the findings is clinically important and is examined further in the discussion chapter.

**8.8 Women’s views of the government services**

The women provided various views of their satisfaction with the medical help offered in government institutions. However, those reasons were similar to the findings of other studies (Hussein and Partridge, 2002; Douglass et al., 2004; Donald et al., 2005; Ross et al., 2010; Poureslami et al., 2011; Denford et al., 2013; Melton et al., 2014; Peláez et al., 2015) and were not unique to Oman or, more specifically, to Omani women. The women in this study raised three main issues: the waiting time to see the doctor; the manner of the consultation; and their concern regarding continuity of care by not seeing the same doctor at each visit. These factors either facilitated or hindered the women’s access to government healthcare services. Only one reason was found to be more relevant to Omani women: their preference for having a female doctor.

Many of the women recruited from the tertiary institution also linked their dissatisfaction with their consultation with being treated by a male doctor in the asthma clinic. Several of them presented their preference for a female physician and linked it to their religious and cultural background. Being able to see a female physician at every visit could be difficult, especially in the tertiary hospital, where most of the department’s doctors are male.

“We speak more comfortably to a woman physician than to a male doctor.” (Noor, T)

The gender preference for a female physician was again raised here but this time was not seen as sufficient reason for leaving government health services. A possible explanation for this could be that most of the women recruited from the tertiary institution had severe
asthma. Despite their preference for a female physician, several of the women in the tertiary hospital did not mind being treated by a male doctor. The severity of their asthma seemed to overcome their concerns about the doctor’s gender. This might also be linked to some women in this group viewing asthma as a disease for which women do not need to discuss personal issues or expose private areas to a doctor.

“During an asthma attack, I don’t care who gives me the treatment.” (Abeer, T)

“Asthma is not a woman-specific issue; I don’t have a problem with seeing a male doctor.” (Souad, P)

Being seen by a female physician was “not an issue” for the women recruited from the regional area, since most of them described being seen most of the time by the same female doctor.

“This is not an issue; I see the same doctor every time.” (Rahma, P)

This could be attributed to the asthma clinic in this setting being managed by three doctors - one male and two female - and to the consideration that the women always managed to obtain an appointment with the female physician.

Several women added that if they arrived for their appointment and found a male doctor, they usually rescheduled their session for when the female physician was available, while a few would go to a private clinic instead. The ability to reschedule could be attributed to this institution serving a smaller catchment area than those in the capital city. (Figure 1.2 in the background chapter shows the population distribution of Oman.)

“All of my appointments were with [named a female physician]; I did not attend my follow-up when there is a male doctor. I ask the nurse to reschedule my appointment with her.” (Rahma, P)

8.9 Women’s health education needs

All the women described receiving health education from the government health sector about asthma and its treatment at some or several points in time during their experience with asthma. They presented various opinions on the timing, type and content of the health education. However, the health education needs of women were similar to the findings of other studies and not unique to Oman (Raynor et al., 2004; Ross et al., 2010; Williams et al., 2011; Melton et al., 2014). The major issues women discussed were as follows:

- How to carry out their domestic roles, the avoidance of triggers, and managing treatments were the three main education needs described by the participants.
• Women’s preference for one-to-one discussion, whereas pamphlets were seen as inadequate and difficult to understand by many.

• There was an overall agreement by most of the women that the moment of diagnosis is not a suitable time for health education. Education given at the moment of diagnosis could hinder the women’s comprehension of the information provided.

• The lack of an asthma self-management action plan.

8.10 Summary

This chapter provided insight into the contextual issues considered by the women in making choices regarding managing their asthma. They identified various reasons and barriers to initiating and maintaining their attendance at medical consultations. The women utilised different services throughout their journey with asthma. They suggested various issues that facilitated their choice of health services, including religious and cultural beliefs about health and illness, the women’s cultural conceptualisation of health in general and asthma in particular, and the power and support of family members, especially their husband. They considered the nature of the symptoms and their interference with their daily activities and domestic roles in making their way to medical consultations. The women’s concerns about harming their bodies by using inhalers frequently and their fear of stigma guided their choice of services. The women’s families’ opinions on asthma and its management also played an important role in shaping their decisions. This chapter also provided greater insight into the women’s teaching needs. Again, women did not mention any role for nurses in advising and helping them to decide when to use health services or which services to use. Omani nurses were available in all the asthma clinics used in this study. The absence of any health education or patient support role for nurses in asthma clinics in Oman warrants further exploration.

The next and final chapter provides a synthesis and discussion of the major concepts identified in this research.
CHAPTER NINE
SYNTHESIS AND DISCUSSION
9.1 Introduction

This study has examined the experience of Omani women and their perspectives on living with asthma. The existing literature indicated a gap in evidence from the Middle East and Oman in particular and little specifically about women’s experience of this issue. The study provides novel insights into the experience from Omani perspectives that could inform interventions and guidelines to improve the experience of women living with asthma in Oman.

Across the women’s narratives, six key issues can be identified that are interrelated and, I believe, have shaped the women’s experience of living with asthma. The six issues are:

- Fatalistic belief
- Health beliefs
- Family dualism - supportive but constraining women’s choices and illness experience
- Women’s gender roles taking priority over managing their illness
- Threatened identity
- Anticipating and experiencing stigma

After considering the key issues that emerged, the chapter then critiques the extent to which the asthma guidelines currently used in Oman embrace the Omani women’s experience.

This chapter also addresses the strengths and limitations of the study, assesses its contributions to knowledge, and its implications for public health and policy, practice and further research. It ends with a plan for disseminating the research findings.

The following sections discuss the six key issues identified above in more detail and compare them with the relevant literature.

9.2 Fatalistic beliefs

In this study, the women’s accounts brought to the fore the prominence they give to their religious beliefs in their accounts of their illness, suggesting that they feel that what happens to them is out of their control. All the women described fate in term of an external locus of control. However, although the women used the word ‘fate’ to explain why people...
overall become ill, none of them gave it as a reason for why they became asthmatic. They all believed that Allah gives health and illness; however, they also acknowledged that their asthma could be due to hereditary factors, age or gender. All the women in this study rationalised, to some extent, their responses to asthma and their attitudes towards their treatment in fatalistic terms. Many women suggested that asthma was a test from Allah of their patience. They considered it a reasonable means to atone for their sins, which might facilitate their entrance into heaven. Fatalism is one of the six articles of the Islam religion and states that everything that happens in this world, whether good or bad, is an integral part of the Will of Allah (Abdalati, 1993). Harandy et al. (2009) stated that fatalism or belief in Allah means believing that the birth, life and death of all creatures are all in the hands of Allah.

The notion of fatalism is not exclusive to Islam. All the major religions contain debates about predestination versus free will (Radley, 1993). Hag Hamed (2014) found that a belief in fatalism was more or less the same for both the Muslim and Christian Orthodox participants in her study, the difference being in their interpretation of fatalism rather than the meaning itself.

Some authors have linked fatalistic beliefs to negative health outcomes, including health practices and non-compliance with medical treatment (Straughan and Seow, 1998; Niederdeppe and Levy, 2007; Walker et al., 2012). Hag Hamed (2014) explained this as the perception that fatalism puts control and responsibility in the hands of an invisible deity and removes it from individuals. My data did not corroborate the idea of fatalism as a negative contributing factor to the women’s health. The women still felt responsible for their health but did not always choose to exercise that responsibility by complying with medical treatment. Some chose traditional treatments.

Fatalism in Islam does not mean in any way that people lose control over or neglect their condition (Hamdy, 2009). In Islam, fatalism means that fate, given to us by Allah, guides Muslims’ lives. It makes people accountable for their behaviours, choices and decisions (Abdalati, 1993). This definition is not at all congruent with what some fanatical Islamic scholars have explained about the concept of fatalism in Islam; as Acevedo (2008) describes them, those scholars state that it teaches people that they are unable to do anything about their lives because everything is determined in advance. It is thus logical that this interpretation of fatalism would lead the women to lose their motivation to care for their asthma. However, this was not the case with the women in my study. None of
those women shared an understanding of being powerless over their illness because Allah had determined it. Conversely, this motivated many of them to care for their asthma by using traditional treatments. Hag Hamed (2014) argued that people’s passive behaviour towards their health is not guided by their fatalistic beliefs but rather by their understanding of it.

A fatalistic perspective was mentioned in two of the reviewed studies (Oncel et al., 2012; Alzayer et al., 2018). Oncel et al. (2012) speculated that people’s acceptance of asthma was related to their faith that they could be cured. As shown in section 2.10.2, the participants gained acceptance over time, rather than through their faith.

Overall, the women in the present study were not passive towards their illness. Nor did they view fatalism as a passive concept whereby they lacked control over their illness. In contrast, they linked it to greater responsibility and freedom of choice. Whether they felt wholly in control of their illness is another matter. Some felt constrained to hand over decisions about their health to other family members (see section 9.4). Accordingly, it is fair to say that the participants’ fatalistic beliefs do not entirely explain their understanding of their illness and their behaviours towards it.

Therefore, it is important to examine other beliefs that contribute to their understanding of their illness - their health beliefs.

#### 9.3 Health beliefs

Through their meta-analysis of the effect of health beliefs, disease severity and adherence, DiMatteo et al. (2007) found a statistically significant association between perceived severity of illness and medication adherence. This indicates that the perceptions of the women in my study and their behaviours towards their asthma and its management are associated with their perception of asthma as an intermittent or transient illness. Several of the women in this study who experienced intermittent symptoms did not perceive the importance of taking their treatment on a regular basis. In these cases, the women adjusted and, in some instances, stopped using their treatment based on the presence or absence of symptoms. Janz and Becker (1984) stated that individuals’ attitudes, knowledge and experience shape their health beliefs. In addition to illness concepts that have been internalised, their individual’s experiences in day-to-day interactions also shape their beliefs. Health beliefs are also influenced by other factors, including perceived susceptibility and the perception of the severity of a disease.
The Health Belief Model (see section 1.6.1) is partially relevant to my findings because it posits that individuals base their health beliefs on their perceptions of susceptibility to a disease; the severity of the disease, and the benefits and costs associated with paths of action that can be taken to prevent it (Becker et al., 1974, p. 206).

The women in this study identified their beliefs about perceived susceptibility as another influence. It explains why several women in this study accepted the asthma diagnosis, used their treatment appropriately, and attended their follow-up visits. Almost half the women had a family history of asthma, and several knew somebody with the condition. Several women who had a relative with asthma had reported not feeling shocked when they knew they themselves had asthma. Their experience of asthma and the positive experience their relative had with the condition may have led to their acceptance and swift adjustment to asthma. A few women in this study presented different perceptions of susceptibility. These women were shocked to learn of their asthma simply because they did not expect it to happen to them. They attributed this to their belief that asthma happens to children and the elderly but not to young people. In many cases, they associated their understanding with the cultural perception about asthma and its treatment, as discussed in the following sections.

Another influence on the health beliefs of the women in this study was their perceived severity of the disease. This explains why some women in this study accepted asthma, while many did not want to believe they had it. Several women who had a relative or knew somebody with asthma reported their feeling of being shocked when they realised they also had asthma. They attributed their reaction to their personal experience with a relative’s or colleague’s asthma that was very negative. According to them, their experience had led them not to want to believe in their asthma and thus influenced their adjustment to the illness. In their opinion, an asthma attack is dangerous and, life-threatening. The view of an asthma attack as a life-threatening condition, as many women believed it to be, created for them a sense of fear and disbelief. However, those who reported having a relative or colleague who had had a more positive experience of asthma adjusted more positively to asthma.

The individual perceptions of the women might explain why they chose to behave in one way and not another, including why they accepted or did not want to believe in their asthma and why they would use or not use their treatment. The expectation of some of the women facilitated their acceptance and they did not, therefore, view asthma as severe. For
several women, their view of asthma as a series of short-term illnesses minimised their perception of its severity. However, women who perceived asthma as a life-threatening condition described not wanting to believe in their diagnosis.

The third influence on the health beliefs of the women in this study was the benefits and costs associated with paths of action. In perceiving asthma treatment, several women counted its effectiveness in reducing their asthma symptoms. Furthermore, several women described their fear of the side effects of their treatment, especially inhalers, on their body, pregnancy and the unborn child, which they attributed to the beliefs of their family. They described family beliefs as heightened by various rumours rooted in their culture. The influence of family is discussed in section 9.4.

In this study, almost half the women had severe asthma, many women described experiencing frequent asthma attacks, and many viewed an asthma attack as a life-threatening state. The women gave extensive accounts of how asthma affected their lives at various levels (see chapter six). However, these considerations did not translate into adherence to treatment or attendance at medical consultations. Women with severe asthma were more likely to attend to treatment, but there were still some who did not. Although more than half the women had mild to moderate asthma, a majority reported experiencing frequent asthma attacks and the utilisation of emergency services.

Leventhal formulated the Self-Regulation Model to explore illness-related behaviour (Leventhal et al., 1984b). The model components are discussed in section 1.6.3. The model theorises that patients’ representation of their illness influences their ways of coping and, therefore, their illness outcomes (Leventhal et al., 1992). A later meta-analysis found a significant relationship between some illness representations and specific components of coping strategies. The meta-analysis also found a relationship between illness outcome and illness representation in certain illnesses (Hagger and Orbell, 2003).

However, in my study, illness representation was not necessarily an indication of the women’s behaviour. It could have been expected that, because of the presentation of their symptoms and their perceived severity, the women would use their treatments and attend health services. However, this was not the case with the women in this study. Their health beliefs were not an indication of their health behaviour, which indicates the existence of other influences that shaped their understanding and influenced their behaviour and coping strategies.
While social cognition models, including the HBM and SRM, aimed to study and understand human behaviour, they are somewhat simplistic in light of the complexity of human nature and their failure to acknowledge cultural differences in health beliefs. Graham and Martin (2012) argued that the psychological variables in these models could be criticised for their failure to give a complete account of why individuals fail to choose healthy behaviour. Unlike sociological theories, these models explain human behaviour by attempting to dissect individuals and classify them without considering their social context (Graham and Martin, 2012). In the current study, the influence of cultural context and other factors, such as family, indicate that it is not solely the individual women’s psychological attributes that drive their choices. More than their health and illness beliefs, the women described various social influences and pressures within their social context that shaped their experience of asthma. These included family influence on the women’s experience, women’s gender roles, and the women’s experience and anticipation of stigma. Women discussed their family as a key influence. Thus, the assumption that these psychological models could explain human behaviour in all cultures and circumstances should be made with caution.

9.4 Family dualism - supportive but constraining women’s choices and illness experience

As discussed in section 1.10.2, and revealed in the women’s accounts, the family is culturally central to Omani society and its values are important to its people. The women in this study asserted that their beliefs arose from the social context in which they were raised and nurtured. The women described their family’s negative and positive influences on how they made sense of their asthma and how they managed it. In this section, I discuss the dualism of the family as both a source of support but also as having an influence on the women’s experience that was not always positive.

In chapters seven and eight, many women mention their family as the main source of support and information on asthma treatments and types of care. Most women described their family as providing significant support in their lives, including physically and emotionally. More than one third of the participants lived with or near their extended family and appreciated family support in reducing the burden of their asthma. Conversely, women who lived in a nuclear family and some distance from their extended family attributed difficulties in avoiding indoor triggers to the lack of family support, which made
it difficult for them to live and deal with their asthma. This was mostly reported by those who did not have a housemaid.

Husbands were the most frequently mentioned source of health beliefs and information, followed by grandmothers. The study indicated women’s recognition and appreciation of their husband’s physical and emotional support. Women did not express the view that support during illness could be part of a husband’s duties and responsibilities to his family and thus expressed gratitude for any support given. Women linked their perception of their husband’s role to the expectations of gender roles they were brought up with. One quarter of the women attributed their use of asthma treatment, including inhalers, and their follow-up visits to asthma clinics to their husband’s positive attitude towards treatment for their illness.

Only one of the reviewed studies specified family as a source of information and the study did not mention a specific family member (Roddis et al., 2016). Three of the reviewed studies cited GPs, public libraries, the internet and the media as the main sources of information (Hussein and Partridge, 2002; Zayas and McLean, 2006; Ross et al., 2010). Among the reviewed studies, only one qualitative study examined the role of partners in supporting women to live with their asthma and revealed a lack of such support. This was attributed to partners’ lack of understanding and the demands of their job (van Mens-Verhulst et al., 2004). However, the findings of that study should be considered with caution because of the different context.

As described in section 1.10.2, recognising the family as a small social unit that needs to support and take care of its members is substantial in the women’s stories of their lives with asthma. Al-Krenawi and Graham (2000) reported the interdependence in Arabic countries among extended family members, which was exemplified through various kinds of assistance, including childcare and household help, as well as social and financial support. Al-Krenawi and Graham (2000) also suggested that it is not strange to see families in Arabic cultures cancelling or happily rescheduling family events because a member of the family is ill or might expect to become so.

I had to draw from other literature because of the scarcity of studies relating to the family role in asthma management in Oman. Within the Omani context, a positive family attitude emerged in the literature regarding breast cancer; however, not for asthma. Al-Azri et al. (2014) explored 19 Omani women’s perceptions of coping with a diagnosis of breast cancer and the findings revealed that the women’s experience was reinforced by social and
emotional support from their family. The women also appreciated the care provided by family members, especially their husband (Al-Azri et al., 2014). Nonetheless, cancer differs from asthma in terms of its symptom trajectory, as it is characterised as being steadily progressive and predictive (Al-Azri et al., 2014). This is unlike asthma, which is marked by a gradual decline with intermittent remission and severe exacerbations (Murray et al., 2005). The participants of Al-Azri et al. (2014) study were women diagnosed with breast cancer at different stages of treatment. Considering the differences between the conditions and the severity levels, the application of the findings needs to be treated with caution.

The influence of family, which is particularly important in Oman, is also discussed in the asthma literature. However, it has mainly been considered with respect to parents’ role regarding their children (Gibson et al., 1995; Fiese et al., 2005). Clark and Nothwehr (1997) noted the importance of accounting for social context, in particular, in self-management studies. They emphasised that researchers need to elaborate on the social networks in patients’ social environment. It is clear that matters have not improved much since then. This was evidenced by the recognition in the National Review of Asthma Deaths (NRAD) report on the role of social context (Levy et al., 2014). The NRAD report established that in around 65% of death cases, several potentially avoidable factors were identified that may have been influenced by patients, their families and the environment. Among those factors, inadequate information, education and advice on managing asthma were the most common (Levy et al., 2014).

The presumption in the literature is that family is supportive and that family support is beneficial (Gibson et al., 1995; Fiese et al., 2005). However, a realist review done by Vassilev et al. (2011) identified that social networks including the family have positive and negative impacts on long term condition management. A recent integrative review found that the family role was more equivocal in adolescents’ experience of living with sickle cell disease (Poku et al., 2018). Most of the studies included in the review by Poku et al. (2018) were from the US context and two from the Middle East, in Saudi Arabia and Lebanon.

Similarly, for the women in this study, the role of the family was more equivocal and this was partially related to their role as women in an Omani situation. Although family influence was seen to be functioning in several circumstances, it also represented some dysfunctional elements. This indicates that in Oman and, in particular, for women with asthma, family support and influence could also be quietly difficult and burdensome.
Notwithstanding the positive support given, in many cases, the family hindered chronically ill women from managing their illness. The women revealed how their family influenced and sometimes pressurised them with regard to their understanding and management of their asthma.

In several cases, women also described how their family made decisions for them about managing their asthma. For instance, many women described their husband’s encouragement to stop using asthma treatment. This was mainly reported by women who had mild or moderate asthma. Women primarily attributed this to their husband’s beliefs and lack of understanding of asthma. Moreover, episodic symptoms, as well as concerns over treatment side effects, could all have persuaded a husband that his wife was not requiring long-term treatment and that simply treating symptoms could be enough. In section 7.3.2, several women also described being actively discouraged by their grandmothers from using inhalers, which was attributed to the grandmothers’ beliefs in rumours that existed in their culture about asthma treatment. This heightened the women’s fear of asthma treatment. In most cases, women who reported using traditional treatments also stated that they were influenced and sometimes pressurised by their family.

Women also negotiated their help-seeking behaviour with their families. The attitudes of authority figures in the women’s families partially influenced the time and place of seeking healthcare services. Some women reported being encouraged and sometimes pressurised by their father or husband to attend private healthcare services. A few women, before being diagnosed with asthma, reported being ordered by their father or husband to attend healthcare services for their asthma symptoms. They maintained that this was after their extensive use of various home remedies that they knew or had been referred to by their close family and other relatives. Women attributed their father’s or husband’s decision to their concern for the women’s health. No notable difference was seen in women’s accounts of their family’s influence on treatment choices in relation to socio-demographic characteristics or whether a family member had asthma. Although this is a small qualitative study, this is an important finding which warrants further investigation.

In contrast, the literature review suggested that people with asthma made individual choices about their asthma treatments. Family influence and particularly family pressure were not evident in the review. For instance, asthma sufferers in the review were referred for complementary therapies by their HCPs alongside their medical treatment (see section
This is different from the case of the women in my study, who used traditional treatment instead of medical treatment.

Culturally, Omani women have to obey the authoritative members of their family, particularly their father, husband, grandmother and mother (Moghadam, 2004). It is clear that Omani society is working hard to preserve family relationships in a changing world (see appendix 1). Although this patriarchal tradition is undergoing a transitional period, it is still hierarchical in structure (Barakat, 2005). The patriarchal hierarchy shaped the attitudes of the majority of the women in my study towards their asthma and its treatment. The women attributed their acceptance of the opinions of authoritative persons in the family to the value and duty of respect. Al-Barwani and Albeely (2007) argued that respect for senior family members as well as the husband is emphasised in Omani culture and draws on the religion of Islam. To some extent, the women’s respect for the senior members of their family limited their decision making in general with regard to living with asthma and, in particular, their asthma management choices.

In a classic paper, Freidson (1960) suggested that patients’ access to healthcare systems is influenced by their lay referral system, which includes a variable lay culture, a personal network and the patients themselves. Conn et al. (2007) identified the family and, in particular, parents’ beliefs and attitudes towards healthcare as one of the influences on an individual’s health-seeking behaviour. In the current study, family members, in particular, the father or husband, were the main influence on the lay referral system for these Omani women. Freidson (1960) suggested people’s discussion of their symptoms as well as their use of home remedies and prescription medicines were influenced through a hierarchy of authority. According to Freidson (1960), people might start with somebody who him/herself had the symptoms and was able to cure them to someone who was a nurse at some time, until they reached a professional doctor who had treated a similar condition successfully. The women in my study compared and contrasted their condition with that of their relatives who had asthma or another chronic illness and tried to learn from them how they dealt with and managed their condition.

Freidson (1960) also established that the authority that exists independently of the profession might guide people away from their physician. This is exactly what happened to many women in my study, as they were influenced by a lay referral authority, mainly their family, to use home remedies and not to attend healthcare services. Most of the women in this study were married, which makes the role of the husband more evident in their lives.
than their father. Thus, further attention should be directed to the role played by the family in general and the husband specifically as the central source of influence upon Omani women living with asthma. This could suggest the possibility that women use the healthcare services that are sanctioned by an authoritative person in the family, who is usually the husband or a male relative.

The current study provides evidence of the considerable role the family played in shaping the women’s experience. Most of the reviewed studies, however, focused primarily on individual decision making and tended to ignore the significant influence of family. The findings indicate the need to explore the circumstances in Omani culture in which family pressure on illness decision making is initiated and sustained.

The women’s narratives reflected their feeling of social pressure to prioritise their roles over their illness. Notwithstanding the influence of the family role on the women’s experience of living with asthma, the women themselves had clear views of their roles that were a product of their culture and of the family structure in which they lived. The role of the family was critical; however, it has to be considered alongside the women’s internalised self-perception of their expected roles. The role of family influence and the women’s roles are not two separate entities; one influences the other, as shown in the next section.

9.5 Women’s gender roles taking priority over and above managing their illness

The women’s narratives were suffused by their anxieties about the fulfilment of their social duties, in particular, their wife and motherhood roles. This was despite differences in their socio-demographic characteristics. However, the highest level of disruption caused by asthma in women’s daily activities and house duties was described by married women (n=23); in particular, those with children (n=20). Cultural influences were apparent in the responses of the married women about the challenges of living with and managing their asthma. Moreover, many women, especially housewives, engaged in housework rather than asking others for help. They felt they should be able to handle all the household tasks. By doing so, they put a high demand on themselves. Women prioritised taking care of their families, even during severe symptom exacerbation. This indicates that the women did not base their behaviour towards their illness on symptom severity. Thoughts of being available, strong and well for their family, especially their husband and children, dominated their accounts. The women discussed denying themselves the right to be sick
and exhibited a significant level of reluctance to accept the ‘sick role’. They considered their social duties too important to be disrupted by illness.

The study established that the women found it difficult to avoid the indoor triggers they linked to their household duties. The World Health Organization (2018) declared that, every year, around 4 million people die prematurely from a disease that is due to household air pollution from using biomass fuel in cooking practices. Moreover, the increased risk of asthma symptoms and diagnosis has been associated with the use of open fires for cooking (Wong et al., 2013). Kanchongkittiphon et al. (2015) reviewed peer-reviewed articles from 2000 to 2013 on indoor exposure and asthma exacerbation. Firewood used for cooking and incense were not among their identified indoor list. This indicates that in a culture such as that of the US, people do not use incense, or firewood for cooking. Within the Gulf countries, Yeatts et al. (2012) reported frequent incense burning and separate kitchens with gas stoves as major indoor air pollutants in the UAE. The findings of my study are in line with Yeatts et al. (2012) recommendation of considering these kinds of air pollution as modifiable factors in future research in the Gulf region.

Many Omani women have a predominantly indoor life, which is attributable to sociocultural norms (see appendix 1). The low expectation that women will have a life outside the home has led to a lack of recreational areas for women, which, in turn, restricts their lifestyle choices. This partially explains why most women in this study considered indoor triggers as those that most exacerbate their asthma (see section 5.2.5). My data imply that indoor triggers are an issue for the context in which the women in my study operate because of their indoor lives. However, indoor triggers are different in the Omani context from those identified in other developing countries, which are mainly biomass fuel and wood-burning stoves used for cooking (WHO, 2018). The indoor triggers mentioned by the Omani women in my study included food spices, bakhour and cleansers.

Furthermore, in presenting their accounts of the influence of asthma on their social life, the women in this study did not talk about their entertainment activities. Several described particular social obligations for them as women. These included the obligation to attend family childbirths, weddings and frequent family gatherings. They felt more obliged to participate in these social activities than their husband. According to the women, men are not expected to attend family childbirth, as this event is more particular to women. They maintained that women are also expected more than men to attend wedding ceremonies, even when this potentially involves triggers that could start or exaggerate the women’s
symptoms of asthma, including crowds, strong bakhour and perfumes. Around one quarter of the women discussed how they were compelled by their societal traditions and cultural expectations to attend social activities. This would indicate that the experience of Omani women might be different from that of Omani men.

Bartkowski and Read (2003) and Rashad et al. (2005) suggested that women’s role expectations are rooted in Arabic religious beliefs and cultural traditions and failing to meet the expectations of their traditional roles does not place women in Arabic cultures in a comfortable position within their society. This could explain why Omani women, particularly those who are married, prioritise their family roles over their career (see section 1.10.7). Rashad et al. (2005) argued that a successful career might help women to escape from traditional stereotypes and give them a chance for self-fulfilment beyond their roles of mother and wife. However, this was not the case for the women in the current study, in which 41% had a university level of education and more than one third had a successful career. However, the women’s level of education and having a successful career did not result in their exemption from traditional roles. They still regarded motherhood and being a wife as the main roles their culture expected them to achieve and this was equally true for both employed women and housewives. Women attributed this to the set of gender roles and expectations among which they had been raised. This emerged clearly through their repeated expressions of gratitude for their husband’s help in carrying out the domestic duties of childcare and housework while they were ill. Around half the women did not perceive these activities as those expected of husbands, which made them feel guilty for not being able to perform their duties.

The interference of asthma with domestic duties was the factor the women considered most important when responding to their asthma. Most of them cited the interference of medical appointments with domestic roles as a barrier to continuing with follow-up visits. In contrast, only a minority suggested that consideration of their domestic duties provided a reason to initiate and continue with follow-up appointments. Thus, the women framed their decisions about which healthcare services to use in relation to their duties as a mother and wife. Thus, many attended private healthcare institutions because they considered them more convenient, especially when the timing of government asthma clinics conflicted with their domestic roles.

Among the reviewed studies, the notion of prioritising motherhood duties over health was only discussed in one study. In van Mens-Verhulst et al. (2004), some women reported
feelings of guilt about their inability to carry out their motherhood duties and missing opportunities with their children. The mother’s experience of asthma in the reviewed studies is scarce, which might be explained by the lack of analysis in these studies of a distinctive maternal experience. None of the reviewed studies referred to any concerns about women’s wifely duties. Most studies were conducted in the West and it might be that women in those countries do not experience the same religious and social pressures regarding their duty as a wife. This could be attributed to the difference in the development these countries have witnessed in comparison with Omani society, which is still working hard to preserving traditional gender roles (Varghese, 2011).

Moreover, the particular issue of women has not been previously identified regarding asthma in Oman. This could be explained by most Omani asthma research involving quantitative studies of children or adolescents and focusing on symptoms, cost, and documentation (see section 1.10.6). However, similar findings have emerged from breast cancer and heart disease literature conducted with women in Middle Eastern countries, including Oman.

In Israel, Goldblatt et al. (2013) conducted a qualitative study that examined Arab women’s experience of coping with breast cancer within their culture. The women in Goldblatt et al. (2013) study perceived themselves as the pillar of the home, and they should always be strong and available for family members at the expense of their own needs and difficulties. Women described their social perception of their roles, which had convinced them to place their social duties as women above their personal health needs. In Lebanon, Noureddine et al. (2008) reported women’s hesitancy in asking for help from family members. Women linked this behaviour to Lebanese cultural beliefs that prioritise the family over attending to women’s ailments. The study included 149 men and 63 women. The women were older, less highly educated (college graduates=14), housewives (75%), less likely to be employed (employed=18) and more often widowed (n=37) than the men. It is clear that the women who participated in Noureddine et al. (2008) study represented different socio-demographic characteristics from the women in my study. Furthermore, Lebanese women who were mostly educated and married might represent different experiences from those in the sample in Noureddine et al. (2008) study.

In Oman, Al-Hassan (2015) reported that women with acute coronary syndrome (ACS) delayed their presentation to the hospital for almost two hours and 30% delayed longer than three hours. Al-Hassan explained the findings by the primary responsibility of women
in Arab culture to their family, which takes priority over attending to their personal needs. Al-Hassan (2015) study was a secondary statistical analysis of a previous cross-sectional study. Furthermore, only 50 women were recruited to the cross-sectional study, in comparison with the sample size required, which was 85 for each gender. The experience of ACS is anticipated to be different from asthma due to differences in the clinical disease characteristics. Although Al-Hassan (2015) study included what I found, the methodological approach mentioned in his study might lead to a different conclusion.

Some of the women in my study perceived it as a social duty and their responsibility to protect their pregnancy. The study established some women reported refraining from using their asthma treatment during pregnancy (see section 7.3.2). Only a few expressed any concern that failure to take their preventer inhaler might affect their pregnancy. This minority group had experienced asthma exacerbation during a previous pregnancy. However, the majority reported their concern regarding the effect of asthma treatment on their unborn child. This group reported not experiencing severe asthma symptoms during pregnancy. This contradicts the view of many women in this study of asthma as a threatening condition, which indicates that the women’s choices in managing asthma were not influenced by their health beliefs but rather by their social position as women within their social context. More than their individual choice, it was their perceived expectation, as set in the social context that pressurised them to place the unborn child over their own health. They wanted to avoid blame if anything happened to the unborn child. Kilshaw et al. (2016) established that women are held responsible for the safety and well-being of their unborn child and after its birth. Accordingly, it is not unusual for women to be blamed when they are not able to conceive or lose a baby through miscarriage. Although this could be a universal perspective, its intensity is expected to be greater in Islamic and Arab societies, which consider that the main female activity is childbearing (Moghadam, 2004).

Another responsibility perceived by most women in this study was their duty to protect their family and, in particular, their children, from being drained emotionally by seeing them suffering asthma attack. They spoke of their efforts to conceal their worry in front of their families. Women in both the van Mens-Verhulst et al. (2004) study and in mine reported isolating themselves during their experience of an asthma attack. While the women in van Mens-Verhulst et al. (2004) study indicated their need for space, those in the current study reported their wish to preserve an image of being a normal woman. This again indicates the internalisation of their social expectation of being a good woman who is
always strong, available and who takes care of everyone in the family, even if that is at the expense of her own health. It also indicates the women’s fear of being seen as different and signals their concerns of feeling stigma (see section 9.7).

This study established that the women continuously strove to preserve a traditional gender role that conformed to religious and social expectations. Charmaz (1991) suggested that people give precedence to their valued pursuits if they cannot achieve a balance between living with illness and following these pursuits. The women in this study viewed such pursuits as required and expected by their culture from them as women. Thus, the women prioritised the social roles that their culture expected of them over their health needs. This indicates those women’s identities as wives, mothers and social women were highly significant to their perception and experience of their illness and, more importantly, to their identities and self-worth. Taking care of themselves in order to be able to care for their families was not a justification that seemed available to many women in this study. Inability to maintain social roles took on a magnified meaning for the women and represented a diminished self. As asthma compromised their ability to meet what they saw as their social obligations, the women felt that asthma threatened their identity.

**9.6 Threatened identity**

The women suggested that their anxieties about the fulfilment of their social duties challenged their sense of a coherent self as a wife, mother and housewife and, more importantly, as a woman. Their illness, therefore, challenged their self-concept. Many women’s accounts suggested that they valued themselves for their ability to perform their social roles and, more specifically, expected gender roles. The women based their definition of a ‘normal woman’ on three main elements (see section 6.2.9): a woman who “does not have an illness”; who “can perform her activities of daily living without help”; and who “can fulfil her duties and social role as a woman” (the last element being specific to their being women). This definition revealed the women’s perception of normality. They related their sense of self-worth to their ability to conform to this picture of normality, which required them to be free of disease and to be able to perform their womanly duties without the need for help from others, including family members. Thus, falling short in performing their duties, especially as mothers and wives, posed a threat to many of the women’s identities, which caused them to view themselves as “insufficient”, “incompetent”, and “not normal” and indicated their sense of their diminished value as a wife and mother. This partially explains the reluctance of many of the women to assume
the ‘sick role’, which conveys their feeling of inadequacy and fear of stigma (see section 9.7).

Several researchers have conceptualised chronic illness as precipitating an identity problem (Bury, 1982; Charmaz, 1983; Kralik et al., 2003; Yoshida, 1994). Charmaz (1983) suggested that the biographical disruption created by chronic illness imposes a threat to the self-worth and identity of the individual. Individuals start seeing the disconnection caused by their chronic illnesses with their former selves, their body and societal expectations. Accordingly, they try to fix that separation and start reconstructing their own narrative experience of their chronic illness (Hydén, 1997; Williams, 2003). In this study, the women separated their new identity as an ‘asthmatic woman’ from their self-conception and the social identities that are expected by their society, including those of wife and mother. The women did not want to accept an asthmatic identity because they perceived that it conflicted with their other identities that are expected by their society. In section 6.2.8, women described how asthma disrupted their pre-existing identities by not allowing them to perform the social duties expected of them. They often expressed their feelings of grief, self-hatred and self-blame over the loss of their wifely or motherhood identity and the duties associated with this. Women described themselves as refusing to accept a new identity as an ‘asthmatic woman’, which could indicate their reluctance to accept an asthma diagnosis. This relates to their anxiety about being labelled by their illness because they sensed that their society negatively categorised people with asthma. A few of the reviewed studies also referred to participants’ fear of being labelled as weak or ill (Cvetkovski et al., 2009; Andrews et al., 2012; Al-kalemji et al., 2014). However, the label of ‘asthmatic woman’ appeared in only one of the studies (Alzayer et al., 2018). Similar to the views of the participants in Alzayer et al. (2018), who were all women, it seems that an ‘asthmatic’ label defines the identity of women in the Omani context.

Women’s different identities were present in their accounts of their everyday practices, including the use of treatment and healthcare services. Despite a refusal to accept their asthma identities, in several cases, women expressed their feeling of being different, of not being normal, or being insufficient as a wife or mother because of their asthma. It did not appear that the women were able to disassociate their asthmatic identity from their pre-existing identities. They seemed to have a conceptualisation of what an ‘asthmatic woman’ would be and did not want to be that woman. Women regarded their pre-existing identities as important and put them to the forefront because their social context viewed them as central to women. For the women in this study, not fulfilling those pre-existing identities
caused their self-concept to suffer. Consequently, the women fostered activities and strategies that emphasised their identities as a normal woman and ignored those related to the ‘asthmatic woman’ identity, such as accepting the sick role, using an inhaler and attending healthcare services. Instead, they started making adjustments to their lifestyle to accommodate their illness. This is illustrated clearly in the previous section, in which women are described as prioritising their social duties over their health.

Although most women stressed their attempts to live much the same as they had before their illness, many of them described refusing to use the preventer inhalers which would, in fact, allow most of them to live a more normal life. The studies reviewed demonstrated that the poor uptake of asthma treatment in general and preventer medication in particular is common in asthma across various cultures. The review provided several reasons for this (see section 2.10.3.3); however, none of the reviewed studies linked this to women’s threatened identity. To the women in my study, it meant being different. It also indicated their concern regarding stigma, as will be seen in the following section.

The above findings provide an empirical explanation of symbolic interactionist theories, such as Turner (1988), in which women emphasise the importance of their self-concept to the way their social context views their new social identity. Thus, they adopt attitudes towards their new social identities (Adams et al., 1997). However, many women in the current study seem to reject their new identities, such as that of “woman with asthma”, “woman using inhaler”, “different woman”, and “sick woman”. The women negotiated these new identities with their pre-existing identities, such as motherhood and wifehood. The women’s accounts featured evidence of their interpretation of their social identity of asthmatic with their social roles/duties in a way that made it hard for them to negotiate and reconcile their new identity. Women evaluated their self-concept from their abilities to fulfil their social roles as expected by their social context. Women perceived those expectations through their day-to-day interaction with their social context. Through such interaction, they found it important to reaffirm their pre-existing identities; as wives and then mothers.

Accordingly, many married women reported that they disregarded the need to use an inhaler and attend medical consultations regularly. However, this issue did not emerge in the accounts of single women. Almost half of the married reported that living some distance from a healthcare institution necessitated their transportation by their husband. Around half all the women in the current study lived within a short distance (5-15 minutes
away) from their primary healthcare institutions. The in-depth exploration of this issue established that, despite their residence area, more than the transportation issue, women’s concerns regarding burdening their husband with their frequent attendance for healthcare services were apparent. Their major concern was to avoid being seen as weak by their husband because of their regular attendance at medical consultations. Several women associated their reluctance to take treatment and attend their follow-up visits with their anxieties about being viewed as different, which might create the risk that their husbands would consider marrying another woman. Polygamous (a plurality of wives) marriage is found to be common in Middle Eastern countries (Atighetchi, 2000). Islam et al. (2013) reported that one in nine marriages (11%) in Oman is polygamous. However, they based their interpretation on a national census that was conducted in 2000. Oman has witnessed great social changes since 2000, so it is necessary to have more up-to-date data on this issue. The women’s fear, was not, therefore, grounded in their own beliefs and self-concept but rather in their society’s tradition, which allows a man to have more than one wife.

My study implies that the women considered different reasons when deciding frequent attendance at the emergency services: their fear of feeling stigmatised, feeling embarrassment about using inhalers, and their concerns about being seen differently by others for using inhalers. These factors in turn drove their poor control and led to the women frequently being admitted to the ED. It would seem to be clear that there are complex social factors underpinning the participants’ decisions in my study and these are different from those in various Western countries. Accordingly, focusing on teaching women about inhaler technique and a self-management plan is not enough if women are too embarrassed to use their inhaler or to accept the asthma diagnosis in the first place. My study is congruent with others that suggest that there may be cultural or ethnicity factors that mediate people’s use of the ED which need to be targeted to improve asthma outcomes. Therefore, asthma intervention needs to be tailored to the specific population context.

In terms of how the literature presents the way in which people with asthma use the ED, the picture is complex. In Newell et al. (2017) study of severe asthma patients in the UK, participants reported their reluctance to visit the ED and a preference to stay home and manage their asthma by escalating their therapeutic bronchodilator doses. They attributed their preferences to various reasons, including treatment not being escalated quickly, feeling fear in the ED, answering the same questions without being listened to, and having no choice as to which ED they would be taken. The participants’ age and gender were not
specified in Newell et al. (2017) study. However, there are other findings from minority
groups within other Western countries that show that some people have a higher preference
for using the ED. Behr et al. (2016) demonstrated that people with an asthma-related
condition are characterised as frequent users of ED and primary care. Deshpande and Look
(2018) found racial disparities between Hispanic, White and African-American participants
regarding their ED visits. Among the three groups, African Americans notably reported
more ED visits. Deshpande and Look (2018) also identified various important predictors
for increased ED visits among the studied population, including poor perceived health
status, the burden of respiratory co-morbidities, and cost barriers. Similarly, the study
associated fewer ED visits with asthma control, asthma education and reduced
environmental triggers. Overall, the three studies indicate reasons that are different from
those recounted by the women in my study. This would suggest that the social contexts of
the three studies hold different perceptions of asthma and, more importantly, different roles
and expectations of women from those in the Omani context.

In some Western countries, there has been much research on why people have poor
outcomes. For instance, the NRAD provides a detailed report of the status of asthma in the
UK and the recommendations of various stakeholders and policymakers (Levy et al.,
2014). By contrast, in the Omani context, we do not have much understanding of which
social and psychological factors affect health-related behaviour, and particularly
behaviours which affect poor outcomes. My data shed important light on what some of
those factors might be for Omani women.

I have thus shown that there are some social and cultural factors which affected the
women’s use of asthma services and compliance with treatment. These factors may also
shed light on the women’s frequent use of emergency services. First, the women and their
families did not seem to perceive the need for help, as they regarded asthma as an
intermittent, transient, temporary or short illness. Freidson (1960) suggested that an
individual’s perception of health needs seems to emerge through a process of interpersonal
influences that are organised through cultural and community structures. Second, being
encouraged by an authoritative family member, such as a husband or grandmother, not to
use treatment or attend medical consultations did not seem to be something that the women
could deal with easily. Third, they were concerned about being seen as different from
‘normal’ women by their husband if they used treatment and healthcare services regularly.
Their fear of being stigmatised by their husband and their concern about their husband
marrying a second wife was evident in their accounts. The anthropological literature
identifies ways in which the cultural norms of individuals guide their choices and those norms might differ from one culture to another and sometimes differ within the same culture (Koos, 1954; Paul, 1955). Considering the preceding discussion of family influence on their asthma and its treatment, the women made decisions which were, for them, informed and logical responses to their particular social and cultural circumstances and pressures.

Throughout the preceding discussions, the women described various external pressures, including family influence and trying to fit their treatment around their social responsibilities. A very specific type of external pressure is the experience of stigma against people with asthma. The finding that many women did not see themselves as normal partially explains their fear of not being recognised as normal women in their social context. They strove to normalise themselves and to avoid being seen differently by people within their social context, particularly their husband. It is perhaps logical then to regard those women’s accounts as featuring their fear of stigma and, more considerably, felt stigma.

9.7 Anticipating and experiencing stigma

The study has established that many women suffered stigma during their social interactions. More than one third described feeling embarrassed due to their asthma symptoms, especially wheezing and coughing with secretion (see section 6.2.8). However, the experience of stigma felt by asthma patients is not a finding unique to this study. Ahmad and Ismail (2015b) highlighted in their review the worldwide prevalence of stigma and that it is a primary concern of people with asthma. A European survey of asthma and COPD reported that 20% of its participants (N=1,742) expressed feeling of stigma, which they attributed to taking medication in public. The study did not include people with severe asthma (Partridge et al., 2011). In Lebanon, patients preferred to be known for having a chest allergy or recurrent breathlessness, rather than asthma. The authors attributed this to participants’ desire to avoid social stigma. However, the participants of that study were parents of children of asthma (Zaraket et al., 2011).

Five of the reviewed studies highlighted the concept of stigma (Hussein and Partridge, 2002; Cvetkovski et al., 2009; Andrews et al., 2012; Al-kalemji et al., 2014; Alzayer et al., 2018). In my study, women shared the experience of feeling embarrassment due to asthma.
symptoms identified in some previously reviewed studies (Mancuso et al., 2006; Oncel et al., 2012; Al-kalemji et al., 2014). African-American women in Trochtenberg and BeLue (2007) study reported feeling pressured by their community to hide their symptoms. The women in my study partially attributed their sense of embarrassment to the same reason identified in the review, which was their fear of being misjudged because of their symptoms. However, the women also linked it to their community’s assumption that they had an infectious disease and to unpleasant feelings caused by seeing their symptoms.

Weiss et al. (2006) stated that people with chronic illness are frequently stigmatised for their disease and this can set them aside as ‘different’ from those who are healthy. Scambler (2008) affirmed that the prominence, visibility and obtrusiveness of a condition affect the level of attributed stigma. This is particularly relevant in the Omani context due to lack of familiarity and because asthma is a relatively newly identified disease.

More than half the women also described a fear of stigma associated with their use of inhalers. However, only one woman reported personally experiencing enacted stigma from her neighbours because of her use of inhalers. This could be because many women hid their use of inhalers. Data also suggested that women attributed stigma to the visibility of the treatment device (inhaler) and the lack of awareness in their community of asthma and its treatment. Accordingly, they tended to isolate themselves by either stopping or minimising attending social gatherings and not using inhalers, especially in public. Feeling embarrassed about taking medication in public was also reported in several of the reviewed studies (Hussein and Partridge, 2002; Haughney et al., 2004; Choi et al., 2008; Melton et al., 2014; Alzayer et al., 2018).

Furthermore, one third of the women in this study felt stigma from their social network expressed either against people with asthma or with other chronic illnesses. They saw how people in their social context reacted towards those people when they were experiencing their illness symptoms, coughing with secretion especially. Women reported that people would look at those with a cough and secretion as having an infectious disease and how they did not want to be near them as they were afraid of getting infected. This demonstrated that they had witnessed stigma against the ‘discredited’ that occurs when an undesired difference is visible (Goffman, 1963). The women’s uncertainty influenced their disclosure of their asthma to their social groups. Accordingly, many women reported hiding their diagnosis of asthma from their social network, including friends, neighbours and colleagues. Their concern was more towards their desire to conceal their illness and,
therefore, avoiding being seen as different. Rains (2014) stated that self-disclosure could be a challenge for people who perceive their illness to be stigmatised.

One of the reviewed studies also discussed its participants’ worry of being classified as “less good” if they told their colleagues they had asthma (Al-kalemji et al., 2014). Ahmad and Ismail (2015a) explored the experience of stigma in adult asthma patients in Malaysia. Half of their participants were Malay, while the other half were Indian and Chinese. Ahmad and Ismail (2015a) reported that patients with asthma discussed their concerns about disclosing their asthma diagnosis to their social networks. Most patients also felt discriminated against when their asthma limited them in certain activities, such as events needing physical exertion. In the current study, women spoke of their anxiety about the possibility of being stigmatised, which caused them to hide their asthma and its treatment.

Scambler (2008) referred to the above situation as self-stigmatisation, which is another concept of stigma that is also applicable to people living with chronic illness. People perceive themselves negatively in their context because they may have absorbed negative ideas about their illness and people with their illness through socialisation (Scambler, 2008). Women in my study who reported they felt stigma in their work tried to conceal their illness from their colleagues or managers. This concealment included a tendency not to use their inhalers in the working area in front of their colleagues and not attending regular follow-up visits, which partially explains their frequent use of the emergency department, as discussed earlier. By not using their inhalers in public, the women were trying to reduce their chances of experiencing enacted stigma. They also wanted to avoid being defined by their condition, which explains their desire not to disclose their illness (Goffman, 1963; Scambler, 2008). Saetermoe et al. (2001) reported that studies investigating the parameters of disability suggest that the stigma of physical disabilities is based on the extent to which they are apparent and lead to behaviour or appearance change that is outside the cultural ideal. The findings of the current study captured this conclusion, as the feeling of being seen as different was heightened by not knowing or having anybody within the social or work group who has asthma or uses inhalers.

As introduced in section 1.6.7, Goffman (1963) distinguished between the discredited and the discreditable. The discredited are those who possess visible attributes of stigma, such as those with physical deformities. Discussing this from Goffman’s point of view, the women’s uncertainty in this study arises not merely from not knowing how people in their social network view and label them when seeing them with asthma symptoms or using
inhalers, but also from whether the label given by their society is favourable and knowing that people identify them by their illness (Goffman, 1963).

In order to develop Goffman’s ideas, Link and Phelan (2001) described some additional attributes of stigma. These attributes consist of labelling, stereotyping, separation, status loss, and discrimination and are associated with power imbalances. According to Link and Phelan (2001), people may not only experience discrimination at the individual level, but also at the societal level. While the first type involves unequal treatment, stigma at the societal level occurs through social circumstances that constrain an individual's resources, opportunities, and well-being. The current study captured both individual and structural components. A few of the women in this study felt isolated by their social context because of their asthma symptoms and use of inhalers. However, many women detached themselves by concealing their diagnosis, hiding their asthma symptoms, and using their inhalers in private. They linked this to their fear of being stigmatised and discredited by their social networks. According to them, individuals who are discredited and set aside by their social groups experience discrimination and status loss. At the structural level, only one woman reported being urged by her managers to resign from her job because of her inability to perform the required tasks due to her asthma and regular absences from work. She had severe and uncontrolled asthma and reported experiencing severe asthma attacks, despite her full adherence to her asthma treatment. That only one woman explicitly reported facing stigma at the structural level could be because many women in this study reported hiding their asthma in their work environment.

Consistent with Link and Phelan (2001), the woman in this study who was discriminated against by her managers experienced not only an individual level of discrimination and status loss, but her work opportunity and well-being were also threatened. This behaviour illustrates the unequal relationship between the woman and her managers. Link and Phelan (2001) referred to this concept as ‘keeping people down’; in this case, the managers, i.e., people with more power, stigmatised the woman, an individual with less power. This, therefore, puts people with chronic illness and disability in a socially disadvantaged position.

Weiss et al. (2006) established that the cultural and social context of the individual shapes the meaning of the stigma. This suggests that, in Omani culture, coughing with secretion and using inhalers are seen as visible attributes of stigma. Saetermoe et al. (2001) discussed cultural differences in perceptions of disability and suggested that stigma is more
important in some cultures than others, which raises the need to understand the relationship between culture and stigma. Cole et al. (2013) found that stigma-related asthma was more present for young adults and was attributed to the personal and social implications asthma caused in their lives. Weiss et al. (2006) also discussed that exploring the meaning of stigma from the perspective of stigmatised individuals reveals rich information about the experience. Throughout this section of the research, the sample in my study provided several explanations of why and how they felt and experienced stigma related to their asthma. The above argument emphasises that various cultures might hold different perceptions of asthma and its treatment. Thus, it indicates the importance of accounting for participants’ cultures’ meaning of asthma and its treatment to improve asthma management and, more importantly, enabling people to better live with it. Women’s narratives need to be considered if the asthma status of Omani women is to improve.

Goffman (1963) established that stigma is socially constructed in reaction to perceived deviance. He argued that stigma is a social problem that is influenced by a wider cultural perspective of labelling and stereotyping, and the social values and meanings that are given to particular attributes. The women in my study felt different or abnormal because of the cultural attitudes present in their society regarding the perception of asthma and its treatment. They also felt disabled because of the set of expectations their society organised for them as women. Failure to achieve those expectations set them aside as different, impaired or abnormal. Furthermore, the social expectation of women’s roles and responsibilities and their overall gender role put women with asthma in a disadvantaged position within their own family. This became clear in section 9.4, as women felt obligated and sometimes pressurised by family to try a specific treatment or to approach particular services. This indicates the unequal power women have in comparison with their husband, grandmother or father, for instance. Moreover, section 9.5 discusses how the social expectation of women’s roles pressurised the women in this study to prioritise their social duties over their health. Again, this indicates the unequal relationship between the social institutions (more power) and women (who seemed to have less power).

In conclusion, the women in this study felt a range of social pressures, which indicates that they had to choose between managing their asthma as expected of them by health professionals and meeting the social obligations expected by their family and community. It is not simply that women are juggling two sets of obligations (health professionals’ expectations and social expectations) and so feel burdened by both; it is also the case that meeting one set of obligations conflicts with meeting the other. Thus, when forced to make
a choice, women prioritised their social obligations. Moreover, women did not always have the power to make choices themselves and, in some cases, their family made treatment choices for them.

Thus, women’s experience in this study shows the limitations of the medical model, which suggests that the cause of chronic illness or disability is only located within individual biology. Failing to cure chronic illness or disability means that an individual is ‘abnormal’ or ‘dysfunctional’. He or she is thus considered a passive recipient who plays no role in his or her condition and treatment (Falvo, 2013). The medical model has been criticised for not considering the role and function of individuals who are ill within their social environment (Scambler, 2008).

Notably, the experience of the women in my study is exemplified more by the social model of disability, in which the disabling effects of illness are seen as a product of the way society is organised, rather than simply as an individual’s biological impairment (Oliver, 2013). It became clear from the women’s accounts that they experienced stigma or felt stigmatised because of the way their society viewed asthma and set attributes of difference or stereotyping for them as women. The social model argues that people are disabled by their illness because of the disabling barriers in their society, rather than simply by the impairment itself (Oliver et al., 2012). Accordingly, the social model has argued that instead of simply focusing on individual change, society has to be changed to accommodate people with impairments (Handley, 2003). Based on the social model of disability, interventions should focus on the environmental and societal factors which affect how women experience and manage their asthma to enable their full participation in society and to better help them in living with their illness.

Therefore, the individualistic model of asthma guidelines has limitations in the Omani context, particularly in relation to women. To understand the implications of the study findings, the next section discusses the gaps identified between women’s understanding of asthma and their adherence to asthma management and the consequences these could have for recommendations in asthma management guidelines.

9.8 Incorporating women’s circumstances in asthma management

The GINA international guidelines are accepted worldwide, including in Oman (Khadadah et al., 2009). Aligned with the GINA guidelines, the Oman Respiratory Society and Oman Family and Community Society (FAMCO) updated their asthma guidelines covering adults
and children in 2009 (Oman Respiratory Society and Oman FAMCO Society, 2009). The asthma guidelines emphasise the need for patients’ involvement and the importance of considering their perspectives and identifying their goals for managing their asthma (Wilson et al., 2010). Considering the sociocultural issues discussed in this chapter, the application of these guidelines in the Omani context might be difficult. The findings in chapters seven and eight show women’s high use of emergency services, with women preferring to use their reliever inhaler over a preventer inhaler on a regular basis. As shown in the background chapter (section 1.7.2), such behaviour seems to lead to poor management. GINA discourages sole dependence on SABA (short-acting beta agonists) rescue (reliever) therapy, which had emerged as having the weakest evidence of effectiveness (Reddel et al., 2015). Despite most women’s reluctance to use inhalers, several did not see any problem with using prednisolone (oral medication), nebulisation and injection treatments. Rumours existing in the community in Oman appeared to involve more negative perceptions of inhaled corticosteroids in comparison with other types of treatment (see section 7.3.2).

Horne (2006) established that lay representations of medications are common across cultural contexts in relation to different illnesses. The findings that emerged from my study indicate that lay rumours about medication seemed more influential for these women than information provided by health professionals. It also suggests their lack of understanding of the role of the various asthma treatments and their importance in relieving their asthma symptoms and preventing attacks. The lack of understanding regarding treatment and what it constitutes might provide some explanation for how they perceived treatment and for their attitudes towards that treatment. These findings are congruent with an AIRGNE study, which identified a gap between the recommended asthma management guidelines and reality in Oman (Khadadah et al., 2009). AIRGNE reported the tendency of Omani patients with persistent asthma to underutilise their inhaled corticosteroid treatment. It identified several reasons for the current level of asthma control in the GNE, including the underrecognition of uncontrolled asthma, underuse of appropriate controller treatment, inadequate patient education, patient denial, and reduced patient expectations of quality of life. Among the study recommendations was the improvement of communication and awareness between patients and physicians (Khadadah et al., 2009).

My study suggests that increasing the awareness of patients and their HCPs may not entirely resolve the challenges women face in living with their asthma. The study has demonstrated the importance of sociocultural influences on the way women perceive and
manage their asthma. Women’s understanding of their treatment was shaped by the cultural perception of treatment within their social networks.

In the current study, it was evident that women were not always the primary people to decide to use treatment and seek medical help. Various sociocultural motives influenced them. More than their individual representations of their illness and their beliefs about the cost and benefits of their treatment, the women considered the perception of influential members of their family and community about asthma and its treatment. As discussed in this chapter, the women considered various social pressures that existed in their context. They were also influenced by internalised cultural and religious values which defined their social duties as women. It was important for them to carry out their social duties as women to avoid threatening their identity, which was defined by the womanly duties expected by their culture. The women’s families played a central role in their illness experience. The influence of the family and particularly the authority of the women's husband were decisive. In several circumstances, the women did not make decisions about the use of treatment and healthcare services, but these were motivated or diminished by the influence of their social networks, in particular, family members (see section 9.4).

The philosophy of chronic illness management has shifted towards patients’ engagement in treating their disease (Taylor et al., 2014). Thus, self-management and action planning have become important components of asthma management and are included in the GINA guidelines (Ring et al., 2007). Bateson (1979) defined self-management as people’s engagement in health promotion activities or in living with a chronic illness so that they are responsible for the day-to-day management of their condition. Theoretically, self-management programmes are based on the self-efficacy theory developed by Albert Bandura (1977). Individuals are the focus of the self-efficacy concept. Bandura and others suggested that behavioural changes in people with chronic illness are based on their beliefs about their personal ability and their expectations of the outcomes (Strecher et al., 1986; Bandura et al., 1999).

The women in this study did not base their perceptions and management of asthma solely on their individual beliefs and dispositions, but rather their social context heavily influenced their perceptions and choices. As I have repeatedly shown, in some cases, decisions were made for the women by other family members. A limitation of the concept of self-efficacy is that it does not examine the sources of the beliefs and expectations people hold regarding their illness. When applying this concept to the data in this study, it
fails to account for the impact of social influences and constraints on women’s understanding of their asthma.

Conversely, self-efficacy theory argues that individuals’ understanding of their experience is the product of their individual experience, rather than that of their social environment and culture. The principal elements of Bandura (1977) theory do not seem helpful in understanding health behaviours within the Omani cultural context. The women in this study described various sociocultural pressures within Oman that indicate that the Omani context might not yet be ready for self-management behaviour.

I subjected the findings to the idea of the HBM, which was used widely in examining issues related to asthma specifically in regard to treatment and adherence. The pioneers of this model were concerned with individuals’ reasons for using or not using healthcare services and for non-compliance with medical recommendations. They were also interested in identifying the influences that might affect individual compliance. They aimed to understand how to change health-related behaviour when necessary (Rosenstock, 1974). However, as the current study has established, those issues or behaviours need to be situated within the larger social context. The reasons why individuals hold specific beliefs or expectations of their illness come from their society and this exploration is missing from psychological models. This could be explained by the HBM originally being established to explain individual decision making about health-related behaviour. From the start, the model was designed to be individual-centric, which could explain its inability to situate individuals’ needs within their broader context.

This study indicates the significant role the women’s families played in shaping their experience. Understanding family beliefs about asthma and its treatment and involving them in the management plan is important. More specifically, the cultural construction of the family and women’s roles should be enmeshed in the guidelines to suit the conditions of adult Omani women and aid them in living more effectively with their asthma. Moreover, healthcare providers need to incorporate women’s and their families’ meanings of asthma and its treatment.

Rosland and Piette (2010) concluded from their review that recent years had witnessed the rapid growth of a self-management programme of chronic illness that involves family members. Trief et al. (2003) suggested that family members of chronically ill patients are an integral part of the daily context of self-care. They are suited to providing sustained and effective self-management support (Rosland and Piette, 2010). Family influences the place
of health in the hierarchy of family priorities. Family also plays an important role in creating the practical, emotional and social context for self-management, which could make it harder or easier for patients to achieve their behavioural goals (Rosland and Piette, 2010). Lett et al. (2005) suggested that people who have adequate family support displayed better disease management and outcome. Gallant (2003) attributed positive outcomes to better self-management behaviour, increased self-efficacy in managing illness, and the reduction of depressive symptoms in patients with increased social support. However, considering the family in the Omani context, such elaboration should be considered with caution. As discussed in section 9.4, in addition to providing support, the women’s families could be a burden in various circumstances. Thus, wider cultural attitudes to asthma might need to be addressed in order to effect change.

The constructivist approach employed in the current research suggests that knowledge is the product of social processes whereby people continuously interact and engage with each other in their social life. The women in this study negotiated their choices of asthma management through their interaction with their social groups and social structures and their cultural background influenced these interactions. This challenges the individualistic model of self-management described by Bateson (1979).

Considering the experience of Omani women and the sociocultural influences featured in their stories, it is difficult to see how individual self-management could be viewed as a realistic option in Oman. In this study, most women reported that the roots of their beliefs and practices were in their families. Women also identified the broader social context and the family as powerful influences on their perceptions of asthma and their decisions about whether to use medical treatment and access healthcare services. For instance, section 7.3.3 indicates that traditional treatments are embedded in Omani beliefs and behaviours. Women’s perceptions and management of asthma are intertwined with their sociocultural values, beliefs and expectations. This could partially explain the women’s accounts of not having or engaging with an action plan.

Chacko (2003) and Fleming and Gillibrand (2009) highlighted the link between social structures and values and people’s self-management in Asian communities in relation to chronic illness. The current study also stresses that health interventions, including guidelines, should be situated within the context of family and community. Alotaibi (2015) recommended that for an asthma education programme to be effective, it should be sensitive to the customs, beliefs and misperceptions of the particular culture. This,
therefore, emphasises that exploring people’s experience of chronic illness in general and asthma in particular needs to be done in terms of psychological and social perspectives.

Having discussed the findings, the next section considers their implications for public health, policy and future research. Before doing so, however, the strengths and limitations of the study need to be considered.

**9.9 Strengths of the study**

- To the researcher’s knowledge, this is the first study within Gulf countries and Oman in particular to explore the experience of adult women living with asthma. This indicates that there is very little about the lived experience of women as related to their health in Oman or the Middle East in general and thus the study adds to that body of knowledge.

- Using grounded theory to achieve the aim and objectives of this study was one of its strengths. Grounded theory is useful in generating new findings and has made a significant contribution to existing knowledge (Corbin and Strauss, 2008). It helped this researcher to make an in-depth examination of women's experiences with asthma and its impact on their and their families’ lives. It also enhanced my understanding of the emotional, religious, cultural and social issues involved in their experience with asthma.

- The symbolic interactionism that underpins this grounded theory study enabled the researcher to explore women’s experiences in terms of the meaning and understanding that has developed through interaction with their context (Blumer, 1969). Theoretical sampling, which is one of the grounded theory principles, allowed the researcher to identify appropriate informants to generate and advance the theoretical concepts.

- Research methods were conducted rigorously throughout the research process to achieve robust results and ensure their trustworthiness. The grounded theory design and rigour facilitated the emergence of the data and, therefore, produced a degree of resonance that is useful to practice, policy and research.

- Many women conveyed positive feelings after finishing their interviews. They considered the interviews a positive experience in being able to talk about and reflect upon their experiences. They were pleased that somebody was interested in discussing their experience of living with asthma.
• The findings would be useful for informing clinical practice in asthma clinics about different aspects of care provided to women with asthma, which may culminate in strategies or guidelines to enhance the quality of care provided.

The study has several limitations and the findings should be interpreted in the context of these limitations.

9.10 Limitations of the study

• The study was relatively small in scale and focused on a limited number of participants in a particular context and time. Its focus on only three settings may have limited its transferability, as the participants were recruited from three asthma clinics (one regional and two in the capital city). However, this limitation is considered unavoidable in qualitative research, in which the intention is focused on the quality rather than quantity of data. A more extensive study could have explored a broader population across different regions of Oman, including more rural and urban areas. Furthermore, this research was limited by time constraints and having a single researcher, as it was conducted for an academic qualification. However, the researcher has tried to ensure that the study sample represents a broad range of experiences and perspectives (see section 3.11.1).

• All the participants recruited were adult Omani Muslim women and all were literate. Thus, the findings might not represent other women of different age groups and cultural or religious backgrounds. The interviewees were also those who had stayed with or returned to government services. The researcher was unable to access women with asthma who were only using home remedies or private health services. The experience of illiterate Omani women or those who only use home remedies or private services might produce different conclusions. The study focused on the adult Omani population and women’s voices were central.

• The data were collected only through individual interviews. Although individual interviews are considered the most suitable method to explore the experiences and perspectives of participants, they are subject to recall bias and distortion from those who take part. This was clear when I asked the women about their reaction at the moment of diagnosis. Many women had experienced asthma for more than five years, and five participants had had it since childhood. The women based their discussion of
this issue on what was for some quite a distant memory, which could have reduced the accuracy of their accounts.

- The interviews were conducted in a hospital environment by a researcher who has a medical background. It is possible that this affected the participants’ accounts of their experience of living with asthma. The hospital environment might have inhibited the women’s responses. However, the women themselves chose to have their interview in a hospital setting and provided rich data.

- The researcher’s position and the short relationship she had with the participants could have resulted in participants providing socially desirable responses. Two participants requested the presence of their mother during their interviews, which could be thought to have hindered honest responses from women who depended on their mother for support. It was noteworthy that one of the women was single and the other had no children and lived close to her mother. The mother of the second participant also had asthma. The researcher tried to minimise social desirability effects by wearing casual dress to avoid identification with healthcare staff and allowing adequate time to build a relationship with participants.

- I have a mother and sister with asthma within the same age group as the study participants, which gave me a preconceived idea of how adult Omani women live with asthma. This thought has, to some extent, influenced my interpretation of the generated data. However, as discussed throughout chapter three and under the section on reflexivity (section 3.21), I dealt with my preconceptions by acknowledging my perceptions and maintaining a reflective diary throughout the research process.


9.11 Conclusion

The study has identified discrepancies between the perspectives of the women who participated and the existing asthma management guidelines, which were developed and drawn from developed Western countries. It has made a novel contribution to considering the appropriateness of Western-centric approaches to self-management in the Omani context. Oman has one of the best healthcare systems in the world. Furthermore, the healthcare services in Oman are free (Shenoy et al., 2009). Despite this, the findings of this study suggest the preference of women for using non-medical treatment over and above medical treatment. This indicates the strong influence of family on the women’s choices about managing their asthma. It also suggests the women’s desire to avoid feeling stigmatised by using healthcare services and inhalers, which again is linked to attitudes of the family and community.

The women’s accounts suggest that their behaviour towards their asthma and its management is a mix of two factors. First, they had internalised a feeling that they must fulfil their social duties as women. They described acquiring these values from their religion and culture. Second, the women also felt under social pressure to carry out those duties. They believed that society would stigmatise them if they did not fulfil their social roles. Accordingly, all of them considered their social duties as the most meaningful aspect of their lives and their identities were connected to this.

The women’s narratives are in line with the interactionist perspective which theorises that individuals modify their behaviours according to their interaction with others, which is transmitted to them through symbolic processes (Dracup and Meleis, 1982). The women in this study assumed the view of their families and, therefore, made predictions about their family’s behaviour. Accordingly, they made choices regarding their treatment and help-seeking behaviour. When society expected them to carry out their social duties, they felt compelled to fulfil that obligation; when their society was not in favour of using asthma treatment, especially inhalers, the women stopped using them, especially in public.

Thus, it appeared difficult for the women to step out of their traditional behaviours and the way they managed their asthma is unlikely to change by simply addressing individual women’s knowledge and attitudes. In this case, it is not valid to assume that once a treatment is prescribed, patients and families will follow it strictly. Nor is it valid to assume that simply educating women about their asthma could be enough to maintain their use of treatment if they are not the main decision makers regarding their use of treatment.
It is more valid to conclude that people’s experience in general and women’s in particular should be the focus of long-term condition management. This is unlike what is seen in the reviewed literature and relevant theories which recognise that a long-term condition is part of people’s lives.

This study provides a new dimension of understanding of the experience of asthma by providing evidence of the perceptions, behaviours and practices of women with asthma in Gulf countries which could be transferable to other Middle Eastern countries and to also the experience of women with other chronic illness in this region. This is due to characteristics shared between these countries, which include religion and culture.

Accordingly, the findings can be used to propose recommendations for policy, practice, education and research which it is thought will improve the experience of adult Omani women living with asthma.

9.12 Implications for public health policy and practice

- In view of the cultural, religious and social influences on health behaviours that the current study identifies, it is important for health professionals to understand their patients’ beliefs about asthma and its treatment. More importantly, this understanding should include an awareness of the influence of individuals’ religious, cultural and social context. Thus, it is important both in patient-provider interactions and also in the development on national asthma policies and guidelines in order to identify and address social and cultural barriers to better management of asthma at the individual, family and societal levels. The current study showed the central role of family in influencing how women make treatment decisions and choose healthcare services in the Omani context. Thus it is important to consider the role of the family when planning health policies and guidelines that are related to asthma specifically and chronic illness in general.

The participants of this study reported that there are factors associated with their indoor lives that trigger their asthma symptoms. Therefore, public health in Oman needs to be mindful of the significance of indoor pollutants for women when addressing the impact of environmental exposure on respiratory illness. The social challenges experienced by women in living with asthma brought into focus the fact that living with asthma requires a shift in attitude towards asthma and its management at the societal level. This necessitates the re-evaluation of the current asthma training and education programme to address the negative social influences experienced by women with
asthma. Moreover, patients’ voices and the input of HCPs are central to developing healthcare services policies, guidelines and programmes. The data in this study could help to enhance the educational material on asthma and develop a community-based asthma management programme specific to the Omani context. It also implies using available resources, such as powerful individuals in the community, such as Imams, religious leaders, nurses and midwives.

- The role of nurses in supporting and educating women with asthma, which has been identified in literature from other countries (Cheung et al., 2018, Denford et al., 2013 & Oncel et al., 2012) was absent in the women stories. Nurses were hardly mentioned by the women in this study. This could be explained by the fact that women’s asthma was mainly managed by their physicians and by pharmacists. As I discussed before on page 16, nurses’ role was mainly on checking vital signs, teaching the women how to use the flow meter and documenting the data on women’s hand-out. Nurses in Oman could play a far greater role in helping women to cope and adapt better to living with their asthma as been showed in literature of asthma management in other countries (Cheung et al., 2018, Denford et al., 2013 & Oncel et al., 2012).

In view of the characteristics of Omani culture that I introduced in chapter one, section 1.10, the enhancement of the nurses’ role especially in dealing with female patients is likely to be acceptable and welcomed by women and their families. This is likely to be facilitated by the recent increase in Omani trained nurses who speak the same language as patients. Thus nurses would be in a good position to help women to incorporate asthma and asthma treatment into their day to day life. Nurses could also discuss with women how to reduce household triggers by providing culturally sensitive advice on lifestyle change which paid particular attention to women’s wife and motherhood roles. Nurses are in a good position to introduce family centred approaches to dealing with women with asthma. This could then be used as a model for caring for other women with chronic illnesses in Oman. Family system theory proposed that any change in one family member results in changes of the whole family system (Ryan and Sawin, 2009). Reflecting on the case of the women in this study, there is a need to change the attitudes of the authoritative person within the family (especially the husband or grandmother) regarding asthma and its treatment to ensure that women receive support from the family to manage their asthma successfully. As women living in an Omani culture, Omani nurses are in a good position to use both an individual lens and a family lens simultaneously to develop a holistic perspective on how to help women to
successfully manage their illness. This family centred approach allows the healthcare providers to focus on the individuals while also considering their families and their social network (Ryan and Sawin, 2009).

The nursing role could also be extended and enhanced by giving nurses a more proactive role in patient education and health promotion. The role of nurse can be activated by using, for example, a programme that uses a collaborative team based approach to care management (Wagner, 2000). In such program the registered nurse collaborates with the physician and other healthcare team members, for example the pharmacist, to provide integrated and systematic care for people with chronic illness. Through such a collaborative model, nurses are in a better position to support and influence people with chronic illness and their families in their choices of treatments and healthcare utilisation including education and support of self-management (Trehearne, Fishman and Lin, 2014).

Some studies have suggested that people with chronic illness who received collaborative care intervention reported more positive health outcomes including better quality of life and improve functioning in comparison to those who received the usual primary care (Katon et al., 2012; Trehearne, Fishman and Lin, 2014). Moreover, more appropriate use of healthcare services and fewer emergency department visits were found among people with chronic illness who received a team based approach to care (Trehearne, Fishman and Lin, 2014). Laughlin & Beisel, (2010) have also suggested that nurses in primary care are in a good position to assess the needs of people with chronic illness and develop a plan in collaboration with the general practitioners.

Wagner (2000) emphasised that a collaborative team based care is needed because the growing need for evidence-based care is beyond the ability of primary care physicians. Wagner (2000) also viewed the nurses, as in a better position to deliver certain important aspects of care in particular support for patient self-management. Because of their traditional holistic perspective that focuses on patient’s preferences, comfort and psychosocial needs and because of the involvement of nurses with families and the community, nurses are in a good position to advance patient centred care (Trehearne, Fishman and Lin, 2014).

Given that most asthma clinics in the Sultanate of Oman involve one or more registered nurses, the employment of the collaborative team based approach would be feasible. Trehearne, Fishman and Lin (2014) stated several factors need to be considered in order for the team based programme to be a success. They included training of routine
care providers, timely feedback of the clinical patient outcomes, use of informatics tool in patient medical records and multidisciplinary systemic case review process. These factors were specific to the US healthcare culture and context. Overall, the healthcare system in Oman needs to consider a greater role for nurses and the collaborative care programme is one model which could be considered. However, this model has been practiced in the specific context of US healthcare services. Given what this study has identified about the unique aspects of Omani culture, we may need to explore several models of enhanced roles for nurses to determine which one could work most effectively in the culture and context of Oman.

Development in Oman of advanced practice nurse (APN) and clinical nurse specialist (CNS) roles would be another way enabling nurses to support people with chronic illness in general and women living with asthma in particular, since such roles can be utilized to educate, treat, and manage people with chronic diseases (Affara and Schober, 2004). The APN role in Oman has begun to emerge in response to the global trend of moving care from traditional hospital settings to the community environment (Affara and Schober, 2004). A shortage of physicians and the growing burden of long term conditions are the main drivers for the development of APN roles worldwide including Oman. This critical role of nurses could strengthen community based chronic disease self-management (Affara and Schober, 2004). How the activation of nursing roles could help in chronic illness management in Oman will require further research.

However, the Omani healthcare system has not yet clarified the roles of APN and CNS. Almukhaini, Donesky, and Scruth (2016) reported several factors that could help to facilitate the development of the CNS in Omani healthcare. They included the awareness and understanding among other healthcare providers of role developments in nursing. They also suggested several ways to activate the roles of APN and CNS. Among those was an increase in the number of nurses obtaining a graduate degree, the establishment of a regulatory body for the Omani nursing profession and increasing the awareness of healthcare providers about how enhanced roles for nurses have been shown to impact positively quality outcomes for patients.

An important issue with nursing in Oman is that more than 60% of the Omani nurses are female and many of primary healthcare institutions are managed by Omani female nurses (MoH, 2016b). This would place them in a suitable position to work with Omani women living with asthma in particular and women with chronic illness in general.
This is because they are very familiar with the various social, cultural and religious aspects of Omani culture in general, and the role and social position or status of Omani women in particular. However, the nurses would need to be trained of their role as a member in the multidisciplinary team approach (Almukhaini, Donesky, and Scruth (2016).

Asthma management in Oman is underpinned by GINA guidelines, which were drawn up in developed Western countries. Despite their usefulness as clinical guidelines, they did not appear to contextualise Omani women’s experiences within their social setting or enable the identification of social influences which adversely affected their management of their illness. In view of these findings, the notion of a self-management concept, as presented in Western countries, is not currently applicable in the Omani context. The findings indicate that the guidelines currently used require a rethink for Oman. They also suggest that Oman might need specific guidelines.

- The findings also suggest that there are many misperceptions and misleading beliefs about asthma that need to be addressed by healthcare providers. There is a need for education, although this cannot simply focus on inhaler technique. The women’s fear of using corticosteroid medication needs to be addressed and its sources explored and rectified.

- The findings also indicate the need to shift attitudes towards asthma and its management, not only at the individual level, but also at the family and societal levels. Inaccurate cultural beliefs about asthma treatment need to be considered and addressed. The study identifies various rumours that exist in Omani culture about asthma and its management, which need to be corrected through community campaigns or workshops. This could also be done by increased public education through the media within Omani society. This will be useful in clarifying public perceptions of asthma and its treatment as well as reducing the stigma that is currently associated with inhalers.

- In this study, the women discussed and emphasised the centrality of the role of their family members, especially their husbands and grandmothers, in shaping their understanding of their illness and influencing its daily management. Use of family-centred approaches, under-pinned by, for example, collaborative implementation theory, CIT (Prestwich et al., 2005) may be pertinent in the Omani setting, as this theory could provide a partial explanation of how women with chronic illness in Oman make decisions about treatment and health care services. The theory may also provide suggestions of how clinicians could facilitate constructive family involvement in the women’s management of their asthma. CIT is based on using two closely related and
motivated individuals who collaborate in planning when and where to perform specific behaviours, with the aim of thereby increasing behavioural enactment (Prestwich et al., 2005). Studies which have used this theory to underpin intervention showed that the impact of partner involvement should not be downplayed, as the effect of partner involvement on behaviour was greater than simply forming an implementation intention to perform the intended behaviour and sustain it (Prestwich et al., 2005). However, whether the social support or the physical involvement of the partner or both was important was not explored. This theory has been used to promote preventive health behaviours. There needs to be further testing of how it could be used to enhance behaviours related to self-management. Furthermore, there needs to be more research on the impact of the social support provided by family members especially the husband on health behaviours. The application of CIT in the Omani cultural context also requires further exploration.

9.13 Implications for future research

- Research is needed to examine to what extent the findings of this study could be replicated with other groups of women in Oman in different circumstances, such as more rural populations.
- Considering the influences identified as negatively affecting women’s experience and management of their illness, researchers need to think about how we might ameliorate these influences and improve women’s experience of living with asthma.
- The study establishes the significant role of the family, in particular, the husband and grandmother, on women’s perceptions of asthma and its burden. The family also played a substantial part in women making decisions about using asthma treatment and seeking medical help. These findings suggest, therefore, the need to explore the perception of women’s families regarding their understanding of asthma, what is needed, and the challenges involved.
- This study provides an insight into the experience of adult Omani women living with asthma. The findings of this study establish a basis for comparison with the experience of other groups. It would be useful to explore the experience of Omani men living with this illness to establish whether the same influences shape their experience.
- Furthermore, the role of the community in chronic illness management, and asthma management in particular, needs to be explored. For instance, researchers could
investigate the role of powerful resources, in terms of individuals such as Imams and nurses, in helping people with chronic illness management and, in particular, asthma management. Research could also investigate the experience of school-age children of living with asthma and how they manage the condition.

9.14 Dissemination

I recognise the importance of disseminating my research findings to a wider audience. The following box describes my plan for dissemination.

I plan to publish a paper on the use of traditional remedies in managing asthma and intended to submit to the journal Thorax or the International Journal of Advanced Nursing Studies. I also plan to publish a paper on stigma among Omani adult women with asthma. I am also interested in writing a paper on how psychological models, including the HBM, SRM and self-efficacy, fall short in embracing the experience of adult Omani women living with asthma. I intend to submit the last two papers to the Journal of Social Science and Medicine.

Furthermore, I plan to condense the major findings of this study into a succinct presentation for healthcare professionals; in particular, those working with asthma patients in MoH institutions in Oman. I also intend to present the study findings in community workshops during Annual Asthma Day in Oman in primary healthcare institutions. I will also liaise with the Director of the Community Healthcare Programme within the MoH to discuss a plan for presenting the study findings to the community.

Box 9.1: Dissemination plan

9.15 Unique contribution of the study: originality

Originality is the provision of new insight by refining or extending current knowledge (Silverman, 2013). This is the first study to have applied grounded theory principles in Oman to construct data about the experience of adult Omani women living with asthma. The central contribution of this research is that it explains the experience of Omani women living with asthma and, more specifically, discusses their needs, concerns and challenges. The study has generated evidence of sociocultural influences on the reality of asthma in Oman and the Gulf countries and, in particular, women’s experience.
The study also provides evidence that most of the women who took part had poor adherence to asthma management and that their practice was found to be influenced by social influences that were beyond their control. The findings introduce the idea that sociocultural influences could provide a holistic explanation of women’s experience with asthma. This could expand the perspective of the current asthma guidelines employed in GNE countries which focus on individuals. The findings of the study provide a possible explanation for the suboptimal use of asthma treatment and help seeking identified in the AIRGNE report in 2009. This study indicates the process through which sociocultural aspects influence how Omani women understand and manage their asthma. The findings might potentially inform the design of modified guidelines that would suit women and improve their experience of living with asthma in Oman.

This study contributes by providing a new dimension of understanding of the experience of asthma by providing evidence of the perceptions, behaviours and practices of women with asthma in Gulf countries which could be transferable to other Middle Eastern countries. This is due to characteristics shared between these countries, which include religion and culture.

The study provides unique insights into how the lives of Omani women mean that they are exposed to different risks and challenges with regard to asthma and its management. The illness beliefs of women and their culture corroborated the women’s anxieties about fulfilling their social roles, their anticipation of a social threat to their identity as women, and their feeling or experiencing stigma. The combination of these contextual influences provides better insight into women’s perceptions, attitudes and behaviours towards asthma and its treatment in Oman, which have not previously been reported.
References


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Appendices
Appendix 1: Transitional development in Oman

Before 1970, the Oman economy was mainly dependent on agriculture, fishing, camel breeding and goat herding (Peterson, 2004). Oman, along with the other Gulf countries, has witnessed social and economic changes due to oil discovery, which began in 1970 with the ‘Omani Renaissance’ (Hendawy, 2013). The Omani Renaissance started in 1970 when Sultan Qaboos bin Said ascended the throne and set a goal to end Oman's isolation (Oman, 2016). The economic development of the Sultanate has had a great impact on health services, education level, urbanisation and demographics (Hendawy, 2013). By 2014, 73.4% of the Omani population had migrated to live in urban areas (NCSI, 2014). Currently, several industries operate in Oman, such as crude oil, natural and liquefied natural gas production, and construction (NCSI, 2016).

His Majesty considered education as a key factor in the country’s development. Education in Oman is provided free until the end of secondary education, although attendance is not mandatory at any level (Bahgat, 1999). By 2010, the illiteracy rate had reduced to 14% in adults (those older than 15), from 40% in 1993. The youth (ages 15-24) literacy rate increased from 92% to 98.9% in the same period. Government expenditure on education was reported to be 4.6% of gross domestic product (GDP) (NCSI, 2014).

An “Omanisation” policy has been pursued since 1988. Omanisation attempts to increase the proportion of Omanis in the labour market in order to replace expatriate labour, with an emphasis on increasing female participation in the workforce (Goveas and Aslam, 2011). Following the principle of Omanisation, Omani people operate in all working sectors of the Sultanate, both government and private. The working age in Oman starts only after secondary school, which is mainly until the age of 18. According to civil service statistics, its employees are all between 20 and 60+. The male Omani employee is typically between 25 and 60+ and the female Omani employee is between the ages of 20 and 54 (NCSI, 2014).

Belwal and Belwal (2010) reported that private vehicles are the most common mode of transportation used by people in Oman. They attributed people’s unwillingness to use public transportation to the high temperatures, which are 40-50 °C during the summer (around six months). Women were also found to feel more secure and comfortable using private cars than public transport. The survey also revealed that sharing transportation is not culturally welcomed. However, it is more acceptable in Muscat, which was linked to the high percentage of non-Omani people who reside in the capital (Belwal and Belwal,
In light of this information, hazards to respiratory health related to increased road traffic and decreased quality of air were anticipated (Scambler, 2008).

Several factors leading to chronic illness are specifically present in Gulf countries. Economic development and the advancement of various technologies and forms of transportation have increased the sedentary lifestyle in Arab nations (Al-Shayji and Akanji, 2004). In Gulf countries, people were found to place a low value on physical activity and to spend more hours watching television and using computers. The practice of employing expatriate domestic workers is common in Gulf countries (Mabry et al., 2012). According to the WHO, in 2008, the prevalence of obesity was 19.4% and 25.9%, respectively, for the male and female Omani population above the age of 20 (Mabry et al., 2012). This high rate of obesity is an important warning signal that requires consideration (Cameron et al., 2003; Naleway et al., 2006; Ogden et al., 2006).

Sociocultural norms have been found to play a role in the physical activity of women within Gulf countries. Such norms create barriers for women to be involved in sports activities. Women’s freedom of movement outside the home is restricted and the lack of or limited access to places for women’s sports are other reasons (Berger and Peerson, 2009). Moreover, Ng et al. (2011) claimed that the hot weather that characterises the region discourages people from engaging in outdoor activities. Badran and Laher (2011) reported that cultural restrictions exist in Arabic societies that restrict women’s lifestyle choices. Mabry et al. (2012) discussed the lack of places of entertainment for women in the Omani context, especially in the regional parts of the Sultanate, where most of the participants in the study resided. They also suggested a lack of cultural consideration in designing specific recreational or physical activity areas for women.

In Arab cultures, males are at much higher risk of smoking tobacco products than females. This may be due to cultural influences that view smoking as an acceptable male social behaviour while considering it a cultural taboo for females. Maziak (2002) considered the low smoking rate among females to be an underestimation, however, as many young women may be reluctant to admit to smoking. In Oman, 13% of the male Omani population above the age of 15 uses tobacco, while 1% of female Omanis smoke (WHO 2015). Al-Lawati et al. (2015) measured the exposure of people in indoor public places to passive smoking and assessed the compliance of public venues with the municipal law against smoking indoors. The result showed positive adherence to the law.
Omani people spend much of their time inside the home. Several indoor pollutants have been reported to trigger asthma, such as pets, dust mites, damp housing and incense (Wever-Hess et al., 2000). Indoor smoking practices were found to be high in a cross-sectional study conducted in Jordan. However, the study reported that women did not regard the practice of smoking indoors as a form of air pollution that should be controlled. Women’s ability to control the indoor smoking within their home was questionable and further exploration was recommended (Madanat et al., 2008). Incense burning, specifically bakhour, is a human-produced source of indoor air pollution commonly found in Arab countries. Bakhour is a “paste made from sandalwood tree resin mixed with other natural oils, and substances” (Yeatts et al., 2012, p 693). Bakhour is a traditional perfume, which is used widely in the Gulf countries. The people in these countries like to use bakhour to scent their clothes and homes on a daily basis and especially during special occasions such as the Eid celebration and Friday prayers (Wahab and Mostafa, 2007).

Insufficient studies have been done on measuring the association between bakhour and respiratory symptoms in general and asthma symptoms specifically (Yeatts et al., 2012). In Oman, Al-Rawas et al. (2009a) found a negative association between asthma prevalence and the use of bakhour at home among schoolchildren. However, the study suggests that bakhour is a common trigger of respiratory symptoms among children, especially those who have asthma and are female.
Appendix 2: Key terms used in the search strategy

<table>
<thead>
<tr>
<th>Main search terms</th>
<th>Key terms/ synonyms</th>
<th>Combined with</th>
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<tr>
<td>Wom*en</td>
<td>Woman</td>
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<td>Female</td>
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<td>Adult*</td>
<td>Adults</td>
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<td></td>
<td>Adulthood</td>
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<td>Asthma*</td>
<td>Asthma attack</td>
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<td></td>
<td>Asthma exacerbation</td>
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<td>Perception*</td>
<td>Experience*</td>
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<td></td>
<td>Life*</td>
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<td>View*</td>
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<td>Perspective*</td>
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<td>Reflection*</td>
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<td>Living</td>
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<td>Manage*ing</td>
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<td>Self-management*</td>
<td>Self-care</td>
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<td>Self-monitoring</td>
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<td>Self-regulating</td>
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<tr>
<td>Healthcare*services</td>
<td>Healthcare system</td>
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<td>Healthcare delivery</td>
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<td>Healthcare professionals</td>
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<td>Healthcare providers</td>
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</table>
Appendix 3: Example of search strategy process (Medline search)
Appendix 4: Hawker’s Assessment Tool (Hawker et al., 2002)

Part A

Author and title: _____________________________
Date: ________________________________

<table>
<thead>
<tr>
<th></th>
<th>Good</th>
<th>Fair</th>
<th>Poor</th>
<th>Very poor</th>
<th>Comment</th>
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</thead>
<tbody>
<tr>
<td>1. Abstract and title</td>
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<tr>
<td>2. Introduction and aims</td>
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<td>3. Method and data</td>
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<td>4. Sampling</td>
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<td>5. Data analysis</td>
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<td>6. Ethics and bias</td>
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<td>7. Findings/results</td>
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<td>8. Transferability/generalisability</td>
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<td>9. Implications and usefulness</td>
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</table>

Good = 4  
Fair = 3  
Poor = 2  
Very poor = 1
### Part B: Assessment Criteria

<table>
<thead>
<tr>
<th>1. <strong>Abstract and title</strong>: Did they provide a clear description of the study?</th>
<th>Good</th>
<th>Structured abstract with full information and clear title.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fair</td>
<td>Abstract with most of the information.</td>
<td></td>
</tr>
<tr>
<td>Poor</td>
<td>Inadequate abstract.</td>
<td></td>
</tr>
<tr>
<td>Very Poor</td>
<td>No abstract.</td>
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</table>

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<thead>
<tr>
<th>2. <strong>Introduction and aims</strong>: Was there a good background and clear statement of the aim of the research?</th>
<th>Good</th>
<th>Full but concise background to discussion/study containing up-to date Literature review and highlighting gaps in knowledge. Clear statement of aim AND objectives including research questions.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fair</td>
<td>Some background and literature review. Research questions outlined.</td>
<td></td>
</tr>
<tr>
<td>Poor</td>
<td>Some background but no aim/objectives/questions OR Aims/objectives but inadequate background.</td>
<td></td>
</tr>
<tr>
<td>Very Poor</td>
<td>No mention of aims/objectives. No background or literature review.</td>
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</table>

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<tr>
<th>3. <strong>Method and data</strong>: Is the method appropriate and clearly explained?</th>
<th>Good</th>
<th>Method is appropriate and described clearly (e.g., questionnaires included). Clear details of the data collection and recording.</th>
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</thead>
<tbody>
<tr>
<td>Fair</td>
<td>Method appropriate. Description could be better. Data described.</td>
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<tr>
<td>Poor</td>
<td>Questionable whether method is appropriate. Method described inadequately. Little description of data.</td>
<td></td>
</tr>
<tr>
<td>Very Poor</td>
<td>No mention of method, AND/OR. Method inappropriate, AND/OR No details of data.</td>
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<tr>
<th>4. <strong>Sampling</strong>: Was the sampling strategy appropriate to address the aims?</th>
<th>Good</th>
<th>Details (age/gender/race/context) of who was studied and how they were recruited. Why this group was targeted. The sample size was justified for the study. Response rates shown and explained.</th>
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</thead>
</table>
## Fair
Sample size justified. Most information given, but some missing.

## Poor
Sampling mentioned but few descriptive details.

## Very Poor
No details of sample.

### 5. Data analysis: Was the description of the data analysis sufficiently rigorous?

<table>
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<tr>
<th>Grade</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Good</td>
<td>Clear description of how analysis was done. Qualitative studies: Description of how themes derived/Respondent validation or triangulation. Quantitative studies: Reasons for tests selected hypothesis driven/numbers add up/statistical significance discussed.</td>
</tr>
<tr>
<td>Fair</td>
<td>Qualitative: Descriptive discussion of analysis. Quantitative</td>
</tr>
<tr>
<td>Poor</td>
<td>Minimal details about analysis</td>
</tr>
<tr>
<td>Very Poor</td>
<td>No discussion of analysis.</td>
</tr>
</tbody>
</table>

### 6. Ethics and bias: Have ethical issues been addressed, and what has necessary ethical approval gained? Has the relationship between researchers and participants been adequately considered?

<table>
<thead>
<tr>
<th>Grade</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>Good</td>
<td>Ethics: Where necessary issues of confidentiality, sensitivity, and consent were addressed. Bias: Researcher was reflexive and/or aware of own bias.</td>
</tr>
<tr>
<td>Fair</td>
<td>Lip service was paid to above (i.e., these issues were acknowledged).</td>
</tr>
<tr>
<td>Poor</td>
<td>Brief mention of issues.</td>
</tr>
<tr>
<td>Very Poor</td>
<td>No mention of issues.</td>
</tr>
</tbody>
</table>

### 7. Results: Is there a clear statement of the findings?

<table>
<thead>
<tr>
<th>Grade</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Good</td>
<td>Findings explicit, easy to understand, and in logical progression. Tables, if present, are explained in text. Results relate directly to aims. Sufficient data are presented to support findings.</td>
</tr>
<tr>
<td>Fair</td>
<td>Findings mentioned but more explanation could be given. Data presented relate directly to results.</td>
</tr>
<tr>
<td>Poor</td>
<td>Findings presented haphazardly, not explained, and progress logically from results.</td>
</tr>
<tr>
<td>Very Poor</td>
<td>Findings not mentioned or relate to aims.</td>
</tr>
<tr>
<td>8. <strong>Transferability or generalizability:</strong> Are the findings of this study transferable (generalizable) to a wider population?</td>
<td>Good</td>
</tr>
<tr>
<td></td>
<td>Fair</td>
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<tr>
<td></td>
<td>Poor</td>
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<td></td>
<td>Very Poor</td>
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</tbody>
</table>

| 9. **Implications and usefulness:** How important are these findings to policy and practice? | Good | Contributes something new and/or different in terms of understanding/insight or perspective. Suggests ideas for further research. Suggests implications for policy and/or practice. |
| | Fair | Two of the above (state what is missing in comments). |
| | Poor | Only one of the above. |
| | Very Poor | None of the above. |
Appendix 5: Summary of review findings and characteristics of the studies included

Qualitative studies

Aim: to explore the experience and perspectives of Arabic-speaking people with asthma, who have low English Proficiency (LEP), about their asthma management

<table>
<thead>
<tr>
<th>(Author, Year, Country)</th>
<th>Population Characters/ Sample type</th>
<th>Study Design Data collection Method &amp; analysis</th>
<th>Key Findings</th>
<th>Rigour</th>
<th>Hawker’s Scoring</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Alzayer et al., 2018, Australia</td>
<td>Young middle age adults, Arabic – speaking people with diagnosed symptomatic asthma or carers of someone else with asthma and with low self-reported English language proficiency. Ethnicity: Arabic. Sample Size: 25. Male/female: 100% female</td>
<td>Design: Generic qualitative Data collection: semi structured in-depth interview Analysis Method: Thematic analysis in a phenomenological paradigm</td>
<td>Negative emotions Feeling shame, embarrassment and hiding from others because of asthma symptoms or having to use medication in public. This was attributed to the feeling that others thought of asthma as contagious. It was also stem from the perceptions that Australian culture did not permit the discussion of illness and treatment. Health literacy Participants preferred to consult Arabic doctor. They believe they have more freedom of expression in a language they were competent in. Asthma actions plan Most participants described not having asthma actions plan or even know what it is.</td>
<td>Strength: • Had clear aim • Adequate information given in the abstract and introduction • Sampling characteristics were clearly stated which enhance the transferability of the results • Recruitment strategy was clear • Ethics considerations were adequately</td>
<td>31 Good</td>
</tr>
<tr>
<td>Age: 20-68</td>
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<td>-----------</td>
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<tr>
<td>Sampling type: Convenience based purposive sampling</td>
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<tr>
<td><strong>Asthma severity:</strong> Not specified</td>
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<tr>
<td><strong>Asthma control</strong></td>
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</tr>
<tr>
<td>Good control: 8</td>
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</tr>
<tr>
<td>Partial control: 8</td>
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<tr>
<td>Poor control: 9</td>
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<tr>
<td>Few have action plan but did not use it</td>
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<td></td>
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<tr>
<td>Some participants who have asthma action plan did not know how to use it</td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>Some participants did not know what to do during asthma attack</td>
<td></td>
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</tr>
<tr>
<td><strong>Reasons for non-adherence</strong></td>
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<tr>
<td>Fear of side effect or addiction, steroid phobia and lack of initiative to employ self-management skills.</td>
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<tr>
<td><strong>Health services</strong></td>
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<tr>
<td>Some participants did not know about the local health services available for them beside their doctor</td>
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<tr>
<td>Some participants stop seeking regular reviews of their asthma with their doctor because they never receive new treatment and their treatments were not changed between visits. Participants described this as indication of their doctors’ inability to treat their asthma. This thought was more among participants who were not aware that asthma is chronic.</td>
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<tr>
<td><strong>Coping style issues</strong></td>
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<tr>
<td>Fatalism, depression, self-blaming and denial.</td>
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</tbody>
</table>

- Participants were drawn from two different institutions which facilitate the generalisability of the findings

**Limitation**
- No information was reported about the methodologies used in the study and why
- Data analysis was not clearly described.
- No adequate information of the thematic analysis
- This limited the implications and usefulness of the study
Aim: to explore how adults’ drawings illustrate their perceptions and experiences of asthma

<table>
<thead>
<tr>
<th>(Author, Year, Country)</th>
<th>Population Characters/ Sample type</th>
<th>Study Design Data collection Method &amp; analysis</th>
<th>Key Findings</th>
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</tr>
</thead>
</table>
| 2. Cheung et al., 2018, Australia | The participants people with doctor-diagnosed asthma | Design: Exploratory  
**Data collection:**  
completed survey about perceived control of asthma, illness perception, quality of life, self-management and sociodemographic information  
completed a lung function measurement  
semi structured interview  
drawing activity  
**Analysis Method:** | **Physical effects**  
Participants describes how the struggle to breath brought about restriction in their daily activities  
Routine activities done with effort as compare to before having asthma  
Limited the ability to participate in recreational activities  
**Negative emotions**  
Sadness and frustration accompanied their asthma attack  
Feeling sadness and frustration when they were unable to attend their loved activities  
Emotional feeling described to trigger asthma attack  
**Feeling different**  
Participants felt different that other people | Strength  
- Had clear aim  
- Adequate information given in the abstract and introduction  
- Employing various data collection methods which facilitated data triangulation  
- Recruitment strategy was clear  
- Ethics considerations were adequately documented.  
- Sampling characteristics were clearly stated which enhance the transferability of the study. | 31 Good |
<table>
<thead>
<tr>
<th>Analysis approach was not specified</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data coding followed the key elements of Common sense model of self-regulation</td>
<td>Limitation</td>
</tr>
<tr>
<td></td>
<td>• The study included people who were fluent in English. The transferability of the study findings to people who are not fluent with English is difficult.</td>
</tr>
<tr>
<td></td>
<td>• The sampling technique was not specified</td>
</tr>
<tr>
<td></td>
<td>• Analysis approach was not specified</td>
</tr>
<tr>
<td></td>
<td>• The experience of the women with asthma was not made explicit.</td>
</tr>
</tbody>
</table>

**Living with asthma**

Avoidance strategy was used if they perceived that disclosure will lead to misunderstanding.

Avoidance strategy involved not using the medication in public and not sharing personal health details.

Avoiding particular food or activities to prevent asthma exacerbation.

Support network of family and friends contribute to not feeling alone or different.

**Life journey to asthma**

For some diagnosis moment was intensely emotional and fearful experience especially for those who diagnosed with asthma at aged 18 or above. The time of diagnosis remained in the memory for these participants.
For the participants asthma was a journey. In the past due to their misunderstanding of what asthma was, they felt that asthma was not controllable.

After diagnosis participants described moving away from their negative experience of diagnosis and continued moving toward regaining personal control.

When accompanied with perceptions of empowerment and improved management of asthma, the participants saw the conditions as less of a burden and barrier to enjoying their lives.
Aim: sought feedback from elderly patients living with asthma to gain explicit insight into their experience with assuming self-management roles for their asthma in order to inform the design and implementation of a primary case-based strategy that could best support their asthma control

<table>
<thead>
<tr>
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</tr>
</thead>
</table>
| 3. O’Conor et al., 2017, USA | The participants older adult had a current diagnosis with asthma | Design: Generic Qualitative **Data collection:** Focus groups **Analysis Method:** Using constant comparative technique | **Physical effect** Shortness of breath, chest tightens, wheezing and fatigue Experience limitation in doing their activity of daily living, housework, and enjoying social activities Experience restriction in movement due to their asthma symptoms **Negative emotions** Participants worry about their asthma an fears of being without their rescue medication, exposure to triggers or having another asthma attack Experiencing anxiety about anticipating asthma attack when having asthma symptoms **Self-management strategies (facilitators and barriers)** 1. **Controller medication use** **Facilitators:** Experience a decrease in | Strengths  
- Had clear aim  
- Adequate information given in the abstract and introduction  
- Recruitment strategy was clear  
- Ethics considerations were adequately documented.  
- Sampling characteristics were clearly stated which enhance the transferability of the results  
- Employing 6 focus groups which facilitated collecting diverse perspective | 30 Good |

<table>
<thead>
<tr>
<th><strong>Ethnicity:</strong> Hispanic and non-Hispanic Black</th>
<th><strong>Sample Size:</strong> 31</th>
<th><strong>Male/female:</strong> 87% female</th>
<th><strong>Age:</strong> 50 years and above</th>
<th><strong>Sampling type:</strong> Not specified</th>
<th><strong>Asthma severity:</strong></th>
<th><strong>Hawker’s Scoring</strong></th>
</tr>
</thead>
<tbody>
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</table>


<table>
<thead>
<tr>
<th>Not specified</th>
<th>Symptoms, organization and routine surrounding controller medication, modified controller medication based on Patient experience, pharmacy delivers. <strong>barriers</strong>: Experience side effects from controller medication, Forget to take controller medication, Concerned about taking multiple medications, Difficulty obtaining refills, Misuse controller medication</th>
</tr>
</thead>
</table>
|  | **Limitations:**
|  | - Study’s methodology was not reported
|  | - The experience of the women with asthma was not made explicit.
|  | - Sampling techniques were not discussed
|  | - Data collection relied solely on focus group interviews might raise social desirability issues |
|  | 2. **Self-monitoring**
|  | **Facilitators**: Check peak flow, Stay within known limits
|  | **Barriers**: Unsure which condition is causing symptoms, Inability to discern when symptoms are worsening |
|  | 3. **Trigger avoidance**
|  | **Facilitators**: Familial and paid assistance
|  | **Barriers**: an inability to always control the |
environment,

4. **Miscellaneous other strategies**
   Not letting asthma get in their way by continuing carry their activity of daily living. Although the participants described this strategy in a positive manner, authors considered it a barrier and classified it as a maladaptive coping which hindered their engagement in a self-management activity

- Engaging in preventive breathing exercise
- Family emotional support

**Patients misperception of asthma control**
Participants reported well controlled asthma, however, they also reported daily use of the rescue inhalers
Participants accepted a level of shortness of breath or limited freedom of movement as a result of asthma. they did not seem aware about the potential quality of their life they could achieve with better asthma control.
Aim: to explore and explain how people makes sense of two long term, potentially life threatening health conditions, namely, thrombophilia and asthma.

<table>
<thead>
<tr>
<th>(Author, Year, Country)</th>
<th>Population Characters/ Sample type</th>
<th>Study Design Data collection Method &amp; analysis</th>
<th>Key Findings</th>
<th>Rigour</th>
<th>Hawker’s Scoring</th>
</tr>
</thead>
</table>
| Roddis et al., 2016, UK | The participants accessed initially through two local hospitals and a national charity working with people who have had clots. Sample Size: 16 (10 thrombophilia and 6 asthma) Overall Male/female: 7/9 (asthma 3 male/ 3 female) and (thrombophilia 4 male/ 6 female). Age: thrombophilia :25-60 Asthma: 32-51 | Qualitative: Constructivist grounded theory Semi-structured interviews (Face to face or by telephone) in participants homes or workplace or university premises. purposive and theoretical sampling Charmaz analysis approach | **Perceiving asthma:** • Asthma patients in this study gained their knowledge through their personal experience as most of them were diagnosed young. Others gained their information from their friends. • Through their personal experience and other known relatives or friends, people with asthma identified various information about their asthma triggers, symptoms, treatments, outcome of not taking the treatment as prescribed, how their illness affect their relationship with their healthcare professionals, the long-term effect and the day to day experiences of living and managing asthma. **Seeking medical help:** | Strengths
Provided a theoretical model of how people live with their long-term illness Adequate information given in abstract and introduction. Applying the theoretical sampling Concurrent data collection and analysis Recruiting participants from three settings. Data collection was based on saturation Mentioned the evolvement of the interview guide, however, not given. | 35 Good |
### Asthma severity:

- People use their experience and information from other sources in making decision whether to seek medical advice or taking treatment when experiencing symptoms. Moreover, they consider whether to accept risks and the consequence lifestyle behaviours. They outweigh the benefits and risk when making their decisions.

### Reacting to asthma diagnosis

- The individuals acceptance of their conditions depend on their understanding and conceptualisation of their diagnosis before, at and post diagnosis in an ongoing process.

- Acceptance of the condition included accepting any uncertainty it created, its consequences and implications.

- Acceptance changed with time and change in circumstances.

- Individuals who were able to live with their condition, it became part of their identity. While other who found it difficult to accept, they lived alongside their condition.

### Recruitment strategy was clear

Ethics considerations were adequately documented. Clear information was given on how data saturation, theoretical sampling and constant comparative approach were employed.

### Limitations

- This study included only 6 participants with asthma; where 3 only were female

- The experience of the female women with asthma was not made explicit.

- It was not mentioned whether the included participants were having multiple comorbidities

- Asthma severity level was not mentioned
Aim: to further explore patients and provider perceptions of asthma care as part of a larger asthma comparative effectiveness study

<table>
<thead>
<tr>
<th>(Author, Year, Country)</th>
<th>Population Characters/ Sample type</th>
<th>Study Design/ Data collection/ Method &amp; analysis</th>
<th>Key Findings</th>
<th>Rigour</th>
<th>Hawker’s Scoring</th>
</tr>
</thead>
</table>
| 5. Mowrer et al., 2015, USA | The participants: parents, children, adults, physicians, nurses and other clinical staff in 15 different practice settings | Qualitative Design: not specified, Sampling Type: not specified, Data collection: 26 Focus groups held every 6 months for 3 years, Analysis Method: Focus group were transcribed and de-identified by a member of the research team. Transcripts were reviewed by the moderator before being read and analysed for triangulation. The data were | **Barriers to medication adherence:** Patients questioned the affordability of medications and considered it a significant barrier to medications adherence.  
**Auxiliary and alternative choices:** Most patients verbalised interest in alternative therapies, but a few patients actually practiced these therapies. Alternative therapies included: herbal medicine, breathing techniques, relaxation and exercises help to improve their asthma and lung function.  
**Asthma action plan:** Some people considered it to be their first decision point before contacting a healthcare provider in the case of exacerbation, whereas other people did not use it at all. Some patients were completely unfamiliar with document.  
**Perceiving asthma:** Many patients had not come to recognise asthma as a disease and had come in terms of diagnosis and the impact on their daily life. They did not want | Strengths:  
- Employing 26 focus groups which facilitated collecting diverse perspective of asthma care  
- Data collection and analysis was clearly stated  
- Provided an adequate information on recruitment process | 34 Good |
analysed by the research team using immersion and crystallisation technique. Thematic approach were also used to acknowledge that it is something that will need to be dealt with the rest of their life.

**Seeking help**
Patients were split on planning a head for the office visits. Most patients would just go in to see their doctor when they felt bad, not as a preventive measure.

**Triggers**
Many patients attempted to identify on their own what triggers exacerbations of their asthma other than the causes are known.

Many identified the weather-related triggers; some were household triggers, pets, furniture, carpet, food, air quality etc. Asthma triggers for many patients became such a part of their lifestyle that they avoid everyday activities and become complacent with their suffering.

**Barriers to asthma self-management**

**Controller versus rescue inhaler:** Conflicting views were presented regarding the controller versus rescue inhalers. Many patients did not know the difference between the controller and rescue inhaler. Some patients used them interchangeably and other used only the one that seemed to work for them at the time.

- Qualitative data that are interpreted by multiple people can be prone to bias.
- The number of adult patients with asthma participated in this study was not indicated.
- Sampling techniques were not discussed
- No separate discussion of the experience of adult patients living with asthma and more important no separate discussion of women’s experience
| Techniques: Many patients had limited understanding of how to effectively use the inhalers. Several patients discovered that their techniques were faulty and that they were only receiving a portion of their dose. |  |  |
Aim: gain insight into factors perceived by patients as hindering or fostering their daily adherence to asthma medication and to develop a taxonomy of barriers and facilitators to support the development of interventions to increase patient adherence to daily long-term controller medication for asthma.

<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>6. Pelaez et al, 2015, Canada</td>
<td>The participants: who had received a prescription of long term inhaled corticosteroids in the previous year. Sample Size: 24 (16 adult with asthma age of 18-76, 2 adolescents and 6 parents with children) Male/female: 59% female Age: 2-76 Asthma severity: not mentioned</td>
<td>Sampling Type: Criterion based sampling Design: Collective qualitative case study Data collection: Face to face interview Analysis Method: Thematic analysis</td>
<td>Cognition barriers to adherence  - The belief that their asthma is not serious was reported by patients who refrained from taking their medication because they disregarded the importance of their symptoms and often did not recognise asthma a chronic condition that needed to be controlled to prevent short term events and long-term sequelae.  - Fear of addiction or dependence to their medication were raised by parents  - Some patients mentioned the belief of decreasing effectiveness of the medication over time  - The perception that the medication should be used in response to symptoms and not on a regular basis translated in patients’ intake of medication solely when experiencing symptoms.  - Inadequate or limited knowledge about their medication reported by patients who</td>
<td>Strengths:  - Using the case study design which is an effective methodological research approach that results in a comprehensive and integrated knowledge  - The diversity of the participants’ age, roles, health care providers’ speciality and medical context brought a wide spectrum of perspectives.</td>
<td>36 Good</td>
</tr>
</tbody>
</table>
were unsure about whether they were taking was compatible with medications taken for other conditions.

- The fear of adverse effect of medication associated with use of an inhaled corticosteroid alone or in combination with long acting B2 agonist and he belief that the medication is not helpful or necessary, justified from the patients’ perspective why they had stopped taking asthma controller treatment

**Cognition facilitators to adherence**

- The perception that self-management should be used in anticipation of triggers was facilitator reported by patients who understood the disease as a chronic condition, accepted the need for long term medication and knew how to increase the dosage of medications in anticipation of potential triggers that could result in an asthma flare up.
- The perception of the beneficial effects of medication was a facilitator where patients perceived as more important than their worries about the side effects of the asthma controller medications.

**Motivation, attitudes and preferences:**

- Forgetfulness about taking their
medication was overcome by having established routines for taking their medication.

- Having a proactive attitude was a facilitator to adhering to long term treatment
- Other barriers included a preference for a non-pharmacological approach
- Some patients expressed the preference for restriction of daily activity instead of taking medication

**Practical implementation:**

- The inconvenience of medication use revolved around different features of the medication that the patients did not like, described as uncomfortable or that demanded additional actions
- A facilitator was the perception of medication as being patient-friendly because of easiness and rapidity of medication intake
- Another facilitator patient discussed was having a written action plan.
- Parental support:
  - The disagreements between parents about their child’s disease led parents to approach their child’s treatment
• Agreement and partnership between parents were a facilitator beneficial for the child’s intake of daily controller treatment.

• A second barrier was a third-party perspective, pertaining to the complexity of understanding the disease from a non-personal stance.

**Patient-physician interaction locus:**

**Communication:**

• Language limitations referred to the fact that some instructions related to the disease and its management, including medication, was given by physicians in a language in which patients were not fluent.

• The misbelief or lack of a clear diagnosis was reported by patients who misguided by doubt concerning their diagnosis, refused to take long term controller medication.

• Other patients reported that their physicians had diagnosed them with asthma but due to lack of formal or objective assessment of disease severity, the severity of disease remained unclear to them.

• The third barrier was the insufficient explanation of the condition and its
management in which patient hesitated to take medication when instruction on how to manage the disease was insufficient.

- Conversely sufficient explanation of the condition and its management improved reported adherence to asthma controller medication.

- Disagreement concerning the prescription and the management plan was reported by patients who acknowledged that they needed to take long term controller medication.

- Patients’ concerns and hesitations were dissipated when an agreement on the prescription and the management plan was reached as a result of negotiation with their physician.

**Patient-physician relationship**

- A poor patient-physician relationship led patients to be less prone to taking the medication either because they did not like the physician attitude during medical visits or felt that the prescribing physician was not sufficiently aware of their clinical history to make an optimal treatment decision.

- Conversely a good patient-physician relationship encouraged the patient to
adhere to medication

- A second barrier was the lack of patient centred approach. Conversely, a patient centred approach was reported as a key facilitator to long term controller medication

**Health care system locus (Sources and services)**

**Barriers:**
- Resistance to medical context
- Lack of or limited health care resources
- Lack of structured follow-up plan
- Lack of or poor, inter-professional communication

**Facilitators:**
- Access to health care professionals
- Asthma education
- Prescription renewal
- Structured follow-up plan by trained health care professionals
- Good inter-professional communication
Aim: to examine the perspective of asthma patients, physicians and allied health professionals regarding adherence to asthma medication.

<table>
<thead>
<tr>
<th>Author, Year, Country</th>
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</tr>
</thead>
</table>
| Pelaez et al., 2014, Quebec | The participants (13 asthma patients, 13 pulmonologist physicians and 12 allied health professionals involved in treating asthma patients) | Sampling Type: purposive sampling Design: Qualitative, multiple collective case study design Data collection: Focus groups Analysis Method: Transcripts were coded following the basic principles of inductive coding consisting of labelling identified meaning units, organising data into emerging categories based on their attributes and identifying patterns | **Understanding of and responsibility for adherence**  
• Patients described adherence as representing three distinct behaviours. First, the patients referred to adhering to components of asthma treatment other than medication, especially quitting smoking and controlling environmental triggers.  
• Second patient discussed being actively involved in their treatment meaning that prescribed medications are dependent on standardised recommendations and adjustment are needed to respond to specific needs.  
• Third, patients taking reference to taking the medication exactly as prescribed.  
• Patients perceived themselves as being responsible for medication adherence. | **Strengths**  
• Large sample size which allow transferability of findings  
• Triangulate a balanced sample of three different groups of asthma stakeholders and to identify specific areas of disagreement that could be the target for intervention.  
• The study followed rigorous qualitative methodology guidelines that increased the robustness and validity of the findings.  
• Focus group procedures were piloted to ensure clarity and interpretability before beginning the data collection. | 36 Good |
among coded categories. Constant comparison of instances for relations, commonalities and differences both NVivo codes and constructed codes were used. Preliminary analyses were presented to the rest of the research team, who provided feedback that was used to develop the final coding. A case specific and cross case Analysis was performed. Identified patterns were used to develop case specific summaries, whereas cross-case analysis was performed by comparing and contrasting data among the groups.

**Perceived barrier to medication adherence**
- Some patients described the aerosols and powder inhalers as medication not being user friendly because it is difficult to know whether it is being used properly or not.

  **Patients related barriers**
  - Patients attitudes and beliefs about perceptions of disease
  - Other patients discussed their hope of finding magical cure for the disease.
  - Some patients mentioned that having poor attitude affected the adherence whereas others reported due to pride; they avoided taking their medication in front of others.
  - Patients discussed some concern about the side effect of medication

  **Health system related barriers**
  - Restricted accessibility to health care such as unavailability of services, delayed appointment and waiting list hindered medication adherence because they complicated the prescription renewal and medical follow-up.

Data analysis were clearly described thus facilitating the implications and usefulness of the study.

**Weakness:**
- All participants were drawn from same institution, which might have introduced some perceptual biases and/or limit the generalisability of the findings.
- Data collection relied solely on focus group interviews might raise social desirability issues.
Aim: to investigate the asthmatic’s perspective on asthma and how coping mechanisms with this disease was influenced by health professionals and network

<table>
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</tr>
</thead>
</table>
| 8. Al-kalemji., et al 2014 Denmark | The participants contacted by phone and then sent an invitation letter | Sample Type: not specified  
Design: Exploratory qualitative study  
Asthma and QOL Questionnaires sent to 1191 then semi-structured interviews were done with 10 chronic asthmatics - depressive and anxiety symptoms and comorbidities were self-reported  
All interviews held at participants homes except one in hospital | Perceiving asthma  
The onset of asthma linked to a specific episode that highlighted asthma symptoms of the participants (pneumonia, measles, and allergic contact to animal...etc.)  
Impact of asthma  
Difficulty with physical activity and breathing difficulty  
Knowing the diagnosis  
In some cases, asthma diagnosis provoked a feeling of defeat and confusion rather than clarification  
Limited with lack of structure and clear information about asthma diagnosis, treatment and prognosis and lack of follow-up  
Managing asthma:  
Participants linked asthma management to the way they tackled any other problem in general | Strengths  
- Inviting different types of asthmatic enable the researcher to formulate different truths about them and their action  
- In order to ensure analytical rigour all relevant information regarding the purpose of this study was included in the analysis to guard against the selectivity  
- Single information points were quoted to avoid generalization. The quotes generated from the interview were organised in boxes according to their relation to the objectives of the study  
- Consensus of interpretation between the authors were | Good (33) |
<table>
<thead>
<tr>
<th><strong>Analysis Method:</strong> Thematic analysis</th>
<th>The asthmatics experimented with what worked and what did not and developed individual ways to accomplish satisfactory management</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Asthmatics adjusted their medicine according to their asthma attacks. Some of them stopped taking the ICS because they did not detect a visible effect</td>
</tr>
<tr>
<td></td>
<td>The ability to stay calm and keep cool during asthma attack was highlighted as an important tool in managing asthma</td>
</tr>
<tr>
<td></td>
<td>They had already established their way of living with asthma and did not want new information that potentially could confront them with mistakes in their coping</td>
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</tbody>
</table>

**Perceiving asthma**

Informants have a relative view of asthma comparing it to what could have been worse

There was no consensus on asthma definition as the participants received different names for asthma

The asthmatic perception of symptoms severity was quite different from what the researcher estimated as they felt their asthma was not bad. However according to the study criteria their asthma was assured

**Weakness**

- Small sample size which limit the generalizability and increase the risk of missing on asthmatics that might have successful stories about asthma and their encounter with health professionals
- Screening questionnaire: self-reported (QOL:15D questions)
- 9 of the participants had other co-morbidities (like muscular-skeletal, neurological disease, epilepsy and obesity)
Impact of asthma classification on comprehension and management

Concerns of being labelled as “less good”
Dropping activities that might provoke asthma instead of seeking proper treatment
Taking asthma medication was mostly seen as private matter that should be done in a safe territory
Asthmatic considered their disease as their own responsibility and did not expect others to considerate
Aim: to identify the types of interactions between asthma patients and their social networks that may influence asthma self-management and that may in part contribute to the higher healthcare utilization observed in some Latino communities

<table>
<thead>
<tr>
<th>(Author, Year, Country)</th>
<th>Population Characters/ Sample type</th>
<th>Study Design Data collection Method &amp; analysis</th>
<th>Key Findings</th>
<th>Rigour</th>
<th>Hawker’s Scoring</th>
</tr>
</thead>
</table>
| Pai et al 2014 USA      | Population: Latino adults, 71% were unemployed, 38% lost their health insurance | Sample type: purposive sample Design: Generic Semi-structured interviews Interview conducted in the inpatient service | **Perceiving asthma**  
• The perception of asthma severity was shaped by the experiences of family  
**Barriers to medication use**  
• Approximately one forth reported that they could not buy medication due to medication cost and lack of money nor could they see the physician due to the cost of the visit  
• The participants described an interesting social dynamic which was the practice of sharing and borrowing asthma medications from family, friends and neighbours or buying them at a lower cost from the “street”  
**Using alternative treatments**  
• The participants describe the practice of using home remedies when they had insufficient money to purchase the prescribed medication. Knowledge of | Strengths  
• Had clear aim  
• Adequate information given in the abstract and introduction  
• The interviews were conducted by one individual who was trained in qualitative research technique  
• When there were discordant views regarding the final analysis and interpretation of findings, the raw data was reviewed by an additional corroborator until consensus was reached  
• 68% of the participants were female | Good (30) |

| 9. | Population: Latino adults, 71% were unemployed, 38% lost their health insurance  
Sample Size: 76  
Female :68% (age 33-56 years)  
Age: 18 years and over  
Asthma severity level: not specified | Sample type: purposive sample Design: Generic Semi-structured interviews Interview conducted in the inpatient service |  |  |  |
these remedies were often acquired from parents or grandparents

**Social support**
- Most participants said that their family and other social networks were helpful in the management of asthma and provided them with needed access to medication

**Provoking asthma**
- Social interactions may have contributed to asthma exacerbations and that family members were often unaware of their contribution to triggering asthma symptoms

<table>
<thead>
<tr>
<th>Weakness</th>
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</thead>
<tbody>
<tr>
<td>- Whether and how the study used the principles of constant comparison and theoretical sampling was not mentioned.</td>
</tr>
<tr>
<td>- The version of grounded theory used in this study was not specified</td>
</tr>
<tr>
<td>- While most participants were of Puerto Rican descent, the data were collected in aggregate form so that no one person was identified therefore, the responses could not be matched to specific patient characteristics including country of origin</td>
</tr>
</tbody>
</table>
Aim: to use patient’s experiences of managing asthma to better understand the relationship between health literacy and health outcomes

<table>
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<tr>
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<th>Hawker’s Scoring</th>
</tr>
</thead>
<tbody>
<tr>
<td>10. Melton et al., 2014 USA</td>
<td>Sample Size: 4 (2 with low print related health literacy and 2 participants with adequate print related health literacy)  Female: 100% African-American Women  Age: 57-68  Asthma severity: not specified</td>
<td>Sample type: convenience sample  Design: Exploratory Qualitative  Semi-structured interviews  <strong>Analysis method:</strong> Interpretative phenomenological analysis (IPA)</td>
<td><strong>Information needs</strong>  - All participants regardless of print related health literacy skills reported a disparity between the information that they received from their providers and the information that they felt was important for them to take care of their asthma  - Participants with adequate print related health literacy were more likely to supplement the information they received from their providers with other sources of information  - Health literacy influenced both decision-making and self-management behaviours. Participants with adequate print related health literacy worked to build rapport with their sought health information from multiple sources and shopped for care that met their standards  <strong>Expecting role of health care providers</strong>  - All participants had similar expectations from their providers. In addition to being treated for asthma, the participants desired to be</td>
<td><strong>Strengths</strong>  - The sample was homogenous, which is useful for achieving the purpose of transferability  - Using IPA in analysing the data provide in depth understanding of a particular group  - This study focused on the patients’ perspective of asthma</td>
<td>27 Fair</td>
</tr>
</tbody>
</table>
respected, listened to and desired a holistic approach to managing their asthma

- Although participants with adequate print related health literacy sought more information from outside sources, they did not demonstrate increased asthma knowledge compared to the participants with low printed related health literacy

that multiple interviews would have provided greater insight into asthma self-management than one interview alone

- The instrument used to measure health literacy in this study presented limitation
- The participants who agreed to participate in the larger study may be different from individuals who chose not to participate
Aim: identify urban adults’ perception of facilitators and barriers to asthma control including the role of self-care, medication, environmental triggers remediation’s and primary care

<table>
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<tr>
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<th>Hawker’s Scoring</th>
</tr>
</thead>
<tbody>
<tr>
<td>8. George et al., 2014 USA</td>
<td>Population mostly Black-African American</td>
<td>Design: qualitative</td>
<td>Sample type: purposive sample</td>
<td>Beliefs about medications:</td>
<td>Strengths</td>
<td>Good (32)</td>
</tr>
<tr>
<td></td>
<td>Sample Size: 35</td>
<td>Semi-structured interview (in-person)</td>
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<td></td>
<td>Female : 71%</td>
<td>Analysis method:</td>
<td></td>
<td>Beliefs on traditional/alternative therapies</td>
<td>Weakness</td>
<td></td>
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<tr>
<td></td>
<td>Age: 21 years and over</td>
<td>Modified grounded theory approach: line by line coding analysis</td>
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<td></td>
<td>Asthma type: adults with persistent asthma and have prescription of ICS asthma treatment</td>
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<td>• More adult with uncontrolled asthma expressed non-adherent to ICS, expressed doubts about the ability to control asthma, rejected medical advice and described more negative experiences with primary care providers</td>
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<td></td>
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<td></td>
<td></td>
<td>• Unnecessary for asthma control and causing systemic side effects have been identified as contributing to low ICS adherence</td>
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<td>• Most of the patients with uncontrolled asthma did not attempts to remediate environmental triggers that were within their control, preferring unconventional strategies to evidenced based recommendation</td>
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<td>Strengths</td>
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<td>• The study provides a new understanding of urban adults’ perspectives of facilitators and barriers to asthma control</td>
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<td></td>
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<td></td>
<td>• The participants recruited from 5 zip codes</td>
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<td>Weakness</td>
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<td>• Although the study used the grounded theory methodology to guide the research, the principles of grounded theory was not clearly articulated especially the theoretical sampling and constant comparison and theoretical saturation.</td>
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<td></td>
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<td>• Theoretical sampling was not employed</td>
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<td></td>
<td></td>
<td>• The version of grounded theory used in this study was not</td>
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<tr>
<td>Avoiding triggers</td>
<td>specified</td>
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<tr>
<td>Several participants believed that exercise should be avoided in asthma</td>
<td>Self-selection bias: only those who could reach by phone and who agreed to an in-home interview were enrolled, they are likely different from those who were unable to be reached or who declined to participate</td>
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<td>They believed that purposeful pet exposure can help to control asthma by desensitizing the individual to the offending allergen</td>
<td>Risk of social desirability: the participants might respond in a way to please the researcher</td>
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<td>They expressed that trees were the source of their pollen allergen</td>
<td>Inability to confirm the accuracy of self-report</td>
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<tr>
<td></td>
<td>Research question was not discussed in the introduction</td>
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</table>
Aim: What are the psychological and communication process that occur during the MESH intervention
How do these relate to changes in asthma self-care behaviour?

<table>
<thead>
<tr>
<th>(Author, Year, Country)</th>
<th>Population Characteristics/Sample type</th>
<th>Study Design Method &amp; analysis</th>
<th>Key Findings</th>
<th>Rigour</th>
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</tr>
</thead>
</table>
| Denford et al 2013 UK   | Population adult patients with asthma using an average of 5 or more puffs per day of reliever medication | Design: qualitative exploratory study 2 semi structured consultations, each lasting approximately 1 hour, 2-3 telephone contact and a 3-month follow-up consultation lasting around 15 minutes After the third consultation the researcher conducted a telephone interviews (semi-structured) with the participants | **Perceiving asthma**
- Patients had various beliefs and in some cases misconceptions about their asthma. Patients did not always recognize that they had asthma
- Some patients did not know how to control their asthma, or realize that their asthma could be controlled with appropriate self-care
- Some patients did not understand that their asthma was poorly controlled or that asthma was a long term rather than an acute condition
- Patients regularly attributed changes in motivation and changes in self-care behaviour to changes in illness understanding

**Affective responses to asthma treatment**
- An important affective influence was concerns about medication use that included concern about becoming dependent and | **Strengths**
- The study presented adequate information of its data collection and analysis
- Participants recruitment clearly described
- The use of direct observation of the in vivo consultation process in combination with interview data (triangulation)
- Collecting data longitudinally over three time points facilitate the construction of individual narratives about changes and the exploration of how changes in self-care behaviour related to intervention processes

**Weakness**
- Sampling selection was not | Good (33) |
<table>
<thead>
<tr>
<th>concern about side effects of taking steroids</th>
<th>clear</th>
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</thead>
<tbody>
<tr>
<td><strong>Affective response to asthma</strong></td>
<td></td>
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<tr>
<td>- Some patients have concerns about having asthma that seemed to relate to their self-concept</td>
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<tr>
<td><strong>Affective response to asthma attack</strong></td>
<td></td>
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<tr>
<td>- Another affective issue was concern caused by high levels of panic-fear emotions experienced during asthma attack</td>
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<tr>
<td><strong>Using asthma treatment</strong></td>
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<tr>
<td>- Patients who had strong concerns about using medication also reported that they were unlikely to use preventive medication on a regular basis even if their illness understanding was accurate</td>
<td></td>
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<tr>
<td>- Patients attributed changes in medication use to reductions in medication concerns following discussion with the nurse</td>
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<tr>
<td>- Patients who reported that they had increased their motivation also reported changes in self-care behaviour</td>
<td></td>
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<tr>
<td><strong>Patient-provider interaction processes</strong></td>
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<tr>
<td>- There were notable differences in the extent to which the nurses encouraged patients to be actively involved during the consultation</td>
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<tr>
<td>- The research was conducted alongside a pilot trials of the MESH intervention and not with a mature optimized intervention with experienced health care provider</td>
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<tr>
<td>- The lack of the experience of the nurses in delivering the intervention might lead to variation in the way the consultation was delivered</td>
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<tr>
<td>- The pilot trial did restrict the ability to purposively sample participants for interview</td>
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<tr>
<td>- The telephone interviews limit the depth of the data</td>
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<tr>
<td>- Not information was given on how the study themes were emerged</td>
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</table>
Aim: to explore the range of reasons for asthma related emergency department utilisation by asthma patients

<table>
<thead>
<tr>
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<th>Study Design</th>
<th>Key Findings</th>
<th>Rigour</th>
<th>Hawker’s Scoring</th>
</tr>
</thead>
</table>
| 10. Lawson et al, 2013  | Population: adult’s patients with asthma (African American 81%) | Design: Qualitative Semi-structured interviews and focus group Field notes | Reasons for ED Utilization  
• ED as a fast or convenient site of care  
• ED resources or expertise  
• Inability to access outpatient provider  
• Inability to access medication  
• Lack of symptom improvement  
• Severity of symptoms  
• Referred by outpatient provider  
• Told to go to ED by a friend or family member  
• Insurance status Perceiving asthma attack Severity  
• Many patients defined severity based on lack of symptom improvement despite self-management. Patients also used this indicator to group their symptoms in two categories: those that they can manage on their own and those that require a | Strengths  
• Recruitment process is clear  
• Sampling characteristics were clearly stated which enhance the transferability of the results  
• The study had study guide which was informed by previous focus group of patients who had history of high emergency department utilisation.  
• Study guide was piloted  
• Transcripts and the emerging themes were reviewed by the entire research team throughout data collection  
• Interrater reliability assessment was done to assess how consistently the two coders assigned quotations to the same theme | 36 Good |
provider’s immediate attention. For the most part, the patients interviewed viewed “severe” asthma symptoms as being too acute for the outpatient setting.

- Theoretical sensitivity was employed clearly
- Clearly stated when the research data was saturated.

**Weakness:**
- Recruited only speaking English patients
Aim: understand how adults with asthma living in a well-developed area, their family members and the nurses caring for them metaphorically perceive their experience

<table>
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<tr>
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<th>Population Characters/Sample type</th>
<th>Study Design Data collection Method &amp; analysis</th>
<th>Key Findings</th>
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</thead>
</table>
| McClelland and Huttlinger, 2013 USA | Sample Size: 23 (6 adult asthma patients, 6 adult family members (immediate family members living in the home of person with asthma), 3 emergency department nurses, 3 nurses who took care of asthmatic patients in outpatient clinic setting) | Design: qualitative Open ended Interview And Observation Analysis method: metaphorical analysis | **Perceiving /Meaning of asthma**  
- They owned or possessed the disease and conceptualized it as a part of themselves  
- People with asthma conceptualize the disease as an entity providing the means to deal rationally with the experience  
- Asthma is war seeking peace  
- Asthma fight can lead to death  
- Asthma attacks can ambush leading to uncertainty  
**The discovery of having asthma**  
- Being diagnosed with asthma was a revelation of some hidden truth and was the first step in accepting ownership of the disease  
- Nurses help make asthma discovery leading to ownership  
- People own their asthma but ownership is problematic  
**Strengths**  
- Rigorous analysis of metaphors within languages reseals hidden meaning and deep truths of asthma patients experience  
- Each participant was interviewed at least twice  
- Follow-up structured and unstructured interviews were conducted with the participants to verify analysed data, clarify data and obtain more in-depth information  
- Note-taking and memoing techniques were used throughout the observation  
- 3 outside researchers experienced in qualitative research methods reviewed the data consistently throughout the data collection and analysis | 32 | Good |
| Sample type: purposive sample | Asthma severity level: not specified | Credibility was obtained by maintaining contact and interaction with the participants in their homes or health care facilities for a period of 8 months |
| Weakness |
| The exclusion of varying ages, races and socioeconomic status of the participants |
| Participants characteristics were not provided |
| The abstract was very brief, unstructured and did not provide adequate information about the study, research aim was not given |
| Not clear how memos and field notes were incorporated and used |
### Aim: to investigate asthmatic patients’ perceptions of their disease

<table>
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<tr>
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</table>
| Oncel et al., 2012 Turkey | asthma patients monitored in the asthma department of a university hospital | Design: Phenomenological Methodology | **Defining asthma**  
- The majority of patients in the study defined asthma as a disease that limits life and makes one develop negative feeling  
**Accepting asthma**  
- The most significant factors in accepting asthma was time  
- The participants considered asthma as a friend as a result of living with it for long time but they did not like this friend since it limited their freedom  
- Some patients were well aware that asthma would not be cured and therefore they have to live with it and accepted it. However, others were believed that asthma was an illness that could be cured completely  
**Impact of asthma**  
- Participants beliefs that asthma place limitations on their physical, social, and mental lives and it could lead to noticeable disruptions on their daily lives if it was not | Strengths  
- provides rich description of the fears and problems encountered by patients  
- Conducting a pilot study (initial implementation by asking five patients to write letters but those patients were not included in the research sample)  
- Recruitment, sampling, data collection method and analysis was clear  
- The letters were read separately by the researcher and notes were taken  
- Three researchers independently reviewed and coded the quotes and agreed on the categories and overarching themes through consensus  
- Two field experts with | Good (35) |
| Population: asthma patients who were monitored in the asthma department of a university hospital | Sample Size: 23 asthmatic patients | Writing Letters | | | |
| Female: 69% | Continuous comparative analysis | | | | |
| Age: 36-47 | | | | | |
| Sample type: purposive sampling | | | | | |
| Participants are patients diagnosed with asthma and they are in the | | | | | |
remission period. Asthma severity level was not specified in the study

<table>
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<tr>
<th>kept under control and therefore had a negative effect on patients’ quality of life</th>
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</table>

**Self-managing**
- Patients’ believed they were capable of making independent decisions regarding Inhaler corticosteroids adherence. They believed that they knew themselves and their asthma better than their health providers

**Affective response to asthma**
- Participants expressed intense feeling of anger of having asthma and wished someone else had it

**Uncertainty**
- Some of the participants stated that they continuously suffered from feeling of worry and anxiety that they would have an asthma attack and be unable to breathe

**Conclusion**
- Asthmatic patients needed support because of the continuous nature of asthma treatment and the threats of asthma attack
- Asthmatic patients’ perceptions of their disease is significant for their acceptance of their illness, reduction of their worries, experience of qualitative studies were asked to comment on the raw data

**Weakness**
- Self-report: Recall bias
- Not everyone knows/has the ability to express his feeling by writing
- Provide insufficient explanation of taken for granted terms given by the participants
- Reflexivity account not indicated
<table>
<thead>
<tr>
<th>learning to live with situation and minimizing their problems</th>
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<tbody>
<tr>
<td>• Informing asthmatic patients and their families about asthma may have an influence on the course of the disease</td>
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</table>
Aim: investigate the reality of self-management practices among a group of adults with asthma

<table>
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<tr>
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</thead>
<tbody>
<tr>
<td>Andrews et al., 2012 Australia</td>
<td>Participants recruited via email</td>
<td>Design: qualitative Focus groups (5 groups)</td>
<td>Perceiving asthma: Asthma was seen as something quite specific to the individual and difficult to generalize Perceiving self-management role • Most participants demonstrated a good understanding of asthma self-management, which included written Asthma Action Plans and managing triggers and symptoms • The assertions that triggers were highly personalized introduced a strong theme throughout all of the discussion—that the person with asthma knows best how to deal with the day-to-day circumstances they find themselves in. • Participants did not spontaneously acknowledge that self-management comprises an alliance with GPs. perceived self-self-managing Dutiful Activists • aware of their triggers and knew how to</td>
<td>Strengths • Provides clear illustration of data collection • The preliminary discussion guide was drafted and pretested in a structured interview with 2 volunteers (1 male and 1 female). Feedback was used to clarify and rephrase the questions. A revised discussion guide was then reviewed by the volunteers and an experienced asthma nurse for refinement Limitation • No adequate information of the thematic analysis • Bias in the study recruitment method: as the sample’s subscription to the asthma newsletter suggests that they</td>
<td>Good (30)</td>
</tr>
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<td></td>
<td>Sample Size: 22 Female: 12 Age: generally middle age group (55% aged 55+ years) Sample type: convenience sample Asthma severity level: not specified</td>
<td>Analysis method: thematic analysis</td>
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</table>

366
| strong advocates for their own cause and, in this sense, had high levels of self-efficacy |
| Believed they had the skills, knowledge, and confidence to be able to control things on a daily basis and this generally came from their experiences of living with asthma for a long time. |
| Had a very high perception of their own knowledge, and while they were regular visitors to their GPs for symptom or medication review, many were sceptical about the interest and knowledge demonstrated by GPs and maintained that GPs fully understand their experience. |

**Complacent Bystanders**

- Conceded that they were in “denial” or accepted that they had asthma but were quite prepared not to take action until it posed a life-threatening state.
- Accepted they were susceptible but were not motivated to act to prevent an attack or manage symptoms on a daily basis; they were reactive rather than proactive patients.

| have an interest in learning more about their disease and or reasonably engaged with their disease. This may be a particular subset of the asthmatic population compared with adults in the general community |
| Sample characteristics were not discussed which might affect the transferability of the findings |
Positive influences on self-management practice

External factors:
Weather, other people’s smoking, the effect of menopause, the demand of work

Internal factors:
Unsuccessful, unrewarded attempts of self-management; which leads to helplessness and in turn to low self-efficacy

Positive influences on self-management
• Personal experience with disease and health care services
• Finding an asthma friendly doctor
• Knowing triggers and having a plan for escalating symptoms

Barriers to adherence to asthma self-management strategies

Stigma
• The concept of no one understands an asthmatic but another asthmatic was further perpetuated by intense feelings of isolation and the perceived public stigma of being a person with asthma. The desire for social
support was clear and could help curtail the collective sense of isolation

- The perceived lack of awareness about asthma held by public was concerning some patients.

- Relationship between the person and social environment is perhaps the strongest influence on reciprocal determinism and central to the formation of experiences, attitudes and opinions about self-management

- Patients’ perceptions of the lack of interest and knowledge by GPs in their asthma are notable barrier for successful self-management. The need for health professionals to engage with patients’ perspectives, beliefs and concerns about their asthma has been highlighted

**Educational needs**

Knowledge of how dust mites, cleaning agents, mould, pollen, pollution, and other environment elements triggered asthma attacks played an important yet relatively simple role in asthma self-management
Aim: To investigate how asthma patients from new immigrant groups are being informed and educated about asthma and its management, and to identify barriers to knowledge transfer.

<table>
<thead>
<tr>
<th>(Author, Year, Country)</th>
<th>Population Characteristics/Sample type</th>
<th>Study Design</th>
<th>Data collection Method &amp; analysis</th>
<th>Key Findings</th>
<th>Rigour</th>
<th>Hawker’s Scoring</th>
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<tbody>
<tr>
<td>Poureslami et al., 2011, Canada</td>
<td>The participants Asthmatic patients Sample Size: 29 Male/female: 13/16 Age: 19-70 Asthma severity: not mentioned Sampling Type: not specified Ethnic groups: Latino, Chinese, Iranian and Punjabi</td>
<td>Design: Qualitative study Participatory research</td>
<td>Data collection: Focus groups Analysis Method: Thematic analysis</td>
<td>Patients perception of asthma: concerns, fears, hopes Participants used different phrases to express their feelings during asthma attack like ‘there was no hope’ and ‘I may die’ Response to asthma treatment They had universal concerns regarding asthma treatment which included: fear of adverse effect from medication, a view that the medication is not helpful or is not necessary, a belief that they should only use the medication when they have symptoms, the inconvenience of using the prescribed medications, concern about diminishing the effectiveness of the medication over time, fear of addiction/dependence. Patient–physician relationship Participants were concerned about the lack of cultural sensitivity in the health system. The importance of having an asthma care provider who was sensitive and</td>
<td>Strengths</td>
<td>30 Good</td>
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</table>

- The community facilitators reviewed the questions for cultural appropriateness
- A number of asthma patients reviewed the questions for relevance and comprehension. Accordingly, the questions were revised.
- Using cultural appropriate patient focus groups allowed to identify several challenges related to access
- The study contributed to the existed knowledge that in order to develop education materials that are relevant to diverse audiences we need to consider patients presents needs and cultural and language preferences.
empathetic, listened and responded to patients’ concern, and provided sufficient and comprehensible information about asthma was raised by the patients.

**Cultural, language and systematic barriers to information and care services.**
Lack of proper communication with their doctor due to language and cultural issues.
Access to specialist and long waiting times to receive needed services were identified

Reliable asthma information: trusted sources
Checking credential or credits of information, checking its authorship, use of multiple resources to obtain the information and assessing whether messages from different sources corroborate each other and using credible sites.

<table>
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<tr>
<th>Limitation:</th>
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<tr>
<td>• Data collection relied solely on focus group interviews might raise social desirability issues</td>
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<tr>
<td>• Data analysis process is not clear</td>
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<tr>
<td>• Ethics consideration were not adequately discussed</td>
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<tr>
<td>• Sample characteristics was not adequately described</td>
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Aim: to explore and compare the asthma goals of both health professionals and people with asthma within the primary care clinical consultation and identified the potential barriers to achieving shared goals and more patients’ centred care provisions

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</thead>
</table>
| Williams et al., 2011 UK | Sample Size: 15 people with asthma, 7 general practitioners, 6 primary care asthma nurses, recruited from 8 practices | Design: Exploratory study  
Semi-structured Interview  
Patients were interviewed at home and professionals at their work place  
Thematic Framework methodology | **Patients’ goals towards asthma care**  
- Controlling the asthma was unequivocally a mediating goal for patients, a mean of living life they wanted to lead.  
- The ‘lifestyle’ goals i.e. personal, social, work and family goals were ‘end states’. Furthermore, all of the patients had specific ‘lifestyle’ goals.  
- Patients tended to aim for the non-specific goal of having ‘a normal life’.  
- People with asthma wanted to be able to socialise and to participate in family life even though that might mean coming into contact with asthma triggers such as cigarette smoke and pet hair. They also had concerns about asthma medications and allergen avoidance which might lead them to accept less than perfect asthma control.  
- Patients perceived that clinical staff was | | (32) Good |
| | F/M: 12:3  
Age: 16-71  
Duration of asthma diagnosis ranged between 2-58 years  
Sample type: purposive | | **Strengths**  
- The use of in-depth structured interview schedule, a format that encouraged participants to express their views and probed to elaborate their goals and underlying motivation  
- The interview scheduled had been piloted in previous studies  
- The inclusion criteria of patients, primary care asthma nurses and general practitioners from the same practice that allowed the comparison to be made between the asthma goals of the health professionals and the goals of a person they were treating for asthma | | |
| Sampling | Patients’ asthma severity level was not given | only concerned with pharmacological management rather than non-pharmacological related asthma goals. | findings may not be generalizable to other setting or other patients
- Failure to include patients who had successfully changed their asthma care in the sample
- Subject recall bias: patients were asked to recall their asthma goals from their practice
- Details regarding the ethical approval and the ethical consideration were not adequately given. Confidentiality issue was the only information given in the study |
Aim: explore the perception of self-management among people who were followed up in a severe asthma clinic by asthma specialists for confirmed, overall severe asthma

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<tr>
<th>(Author, Year, Country)</th>
<th>Population</th>
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<tr>
<td>16. Ross et al., 2010 Canada</td>
<td>Population Sample Size: 8 Female: 6 Age: 23-53 Sample type: purposive sample Asthma severity level: severe</td>
<td>Design: qualitative In-depth-interview and field notes Content analysis</td>
<td>Sources of information</td>
<td>Healthcare professional and written materials Most study participants actively sought information relevant to asthma from variety of sources other than health professionals Modes of information Information about asthma provided by the family doctors was delivered primarily through pamphlet and was often limited to medication and correct device use Others report a preference for verbal as opposed to written information alone Some participants reported having difficult in understanding the written information because it was not delivered in everyday language</td>
<td>Strengths The results add to the understanding of the perspectives of patients with severe asthma in the context of a severe asthma clinic in Canada The employment of purposive sampling which increased the sample heterogeneity Discussion among the three members of the research team were undertaken to assure quality in the interview process Adequate data was presented on how the researchers employed the inductive and iterative process in analysing the data Limitation Recall bias Not clear how field note were</td>
<td>Good (34)</td>
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Content of information

- Two participants expressed dissatisfaction with information they found about asthma because they felt it was geared for people with milder disease.
- Information about asthma should be given in simple language.
- Participants wanted to be able to express their opinion about management strategies and to feel their concern were heard and taken seriously.

Perceiving asthma management

- All participants viewed asthma management as taking their medications. In addition to taking medications, four (50%) mentioned *exercise* and four (50%) mentioned *avoiding triggers*.
- By contrast, control for the majority of these participants (88%) meant being able to engage in activities.
- Few mentioned changes in symptom patterns as an indication of asthma control.

Lifestyle adjustment

- For this study participants learning to
manage their asthma was a process that required different degrees of adjustments and shifts in their perspective over time involving both trial and error and learning one’s own limitations.

- Adjustment to having asthma was a matter of finding a balance between the good and the bad. The good is the extent to which participants could engage in normal everyday activities that are aligned with their personal values and beliefs. The bad is related to the discomfort imposed by asthma symptoms and or the recommended treatment for severe asthma, including interaction with health care system.
Aim: to investigate the perceptions and attitudes towards asthma management of general practitioners, pharmacists and people with asthma in a rural area

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</table>
- Medication taking  
- Trigger factors avoidance  
- Healthy lifestyle maintenance  
- Being informed  
**Tools used in asthma management**  
- Medication device  
- Written asthma information  
**Barriers to asthma management**  
- Losing inhaler  
- Using inhaler in public  
- External environmental triggers | **Strengths**  
- Provides separate analysis for each group  
**Limitation**  
- Sampling strategy was not discussed  
- Although the study used the grounded theory methodology to guide the research, the principles of grounded theory was not clearly articulated especially the theoretical sampling and constant comparison and theoretical saturation.  
- Theoretical sampling was not employed  
- The version of grounded theory used in this study was not specified | 29 Fair |
Aim: to understand how adults living with asthma deal with their chronic illness, perceive self-management and develop self-care strategies

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<tr>
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<tr>
<td>18. Loignon et al 2009 Canada</td>
<td>Sample Size: 24 Female:14 Age: mean age 27-76 years Sample type: First Stage: Purposive sampling Second Stage: Snowball Sampling Experience of asthma 1 month to 46 years Patients’ asthma severity level was not given</td>
<td>Design: qualitative study Semi-structured Interviews Data analysis: inductive interpretative data analysis</td>
<td><strong>Self-care strategies controlling the symptoms</strong>  - Prescribed medication is (preventer and reliever) considered the best solution  - Perceived preventer and relievers as symptoms controllers which could use on a regular basis  - Cost and remembering to take drugs are the most challenge in this group  - Challenged were overcome by associating taking medication with daily rituals  - Experienced few attacks  - With attack they contact their GP or attend the ED  - Found the regular follow-up benefit, which increase their trust in their doctors.</td>
<td><strong>Strengths</strong>  - The study provides an adequate illustration of all research process  - The sampling method respects the principles of variation and saturation. This type of sample allowed the researcher to obtain a wealth of data that took into account the diversity represented in terms of patients’ perception and experience  - The interviews were conducted by a sociologist with extensive interviewing experience  - Using of the inductive interpretative strategies to analyse the data  - The authors employed transversal analysis among all transcripts with central and</td>
<td>Good (35)</td>
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<td>Preventing the symptoms</td>
<td>Tolerating the symptoms</td>
<td>emergent themes</td>
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<td>• determining and preventing causes</td>
<td>• Avoiding medication</td>
<td>• The researcher conducted a debriefing session after the coding and interpretative analysis which helps structuring the inductive and iterative process of analysis</td>
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<td>• avoiding attack</td>
<td>• Confronting symptoms when crisis occurs</td>
<td>Limitation</td>
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<td>• preventing disease from worsening</td>
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<td>• The data of this study drawn from specific context and the generalization should be with caution</td>
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<td>• Mix use of biomedical and alternative</td>
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<td>• Participants who have less than one year experience with asthma may not provide rich description of their experience as they were newly diagnosed</td>
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<tr>
<td>• Use medical treatment when crisis occur</td>
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<td>• Some participants had other co-morbidities like hypertension and diabetes.</td>
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<td>• Attend medical follow-up when have exacerbations</td>
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Aim: to determine patients' views about exercise and lifestyle activities and to determine if these views varied depending on asthma characteristics

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</table>
| Mancuso et al, 2009 USA | Sample Size:60 Female:88% mean age: 45+ or - 15 Sample type: convenience Sampling most patients had moderately severe disease | Design: cross-sectional qualitative study Open-ended questions Interviews Data analysis: line by line analysis | **View of asthma** Asthma characterized according to distressing symptoms, and as a chronic or transient condition that could be unpredictable, variably controlled, and potentially life-threatening. Views derived from personal experiences and the perceived experiences of others in one's social network. Not being able to anticipate the exacerbation or not knowing what to expect contributed to some patient’s view that asthma was unpredictable. In most cases this caused fear and uncertainty **Impact of asthma** Asthma caused marked limitations in daily activities, impeded interactions with others, and required attention and work to avoid triggers. Asthma could become part of one's identity and invoked strong emotions of fear and resentment. Medication was considered both a burden and a “rescuer”. | **Strengths**  
- Adequate data given about data analysis  
- Findings were illustrated clearly  
**Limitation**  
- No specific discussion on women experience  
- Number of female participants not given  
- No clear information on how recruitment and sampling was done | 34 Good |
Aim: identify beliefs about asthma medications and to assess these beliefs according to patient and asthma characteristics including asthma severity and patients’ reported medication adherence

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</table>
| Choi et al 2008 USA     | Sample Size: 52 87% Female Age: mean age 43 years Sample type: convenience sample Asthma severity level were not given however all patients were outpatient | Design: Cross-sectional qualitative study **Interview (Open-ended question):** the patients were interviewed to describe asthma and how it is affects their lives and to identify barriers and facilitators to exercise **Analysis method:** qualitative technique Patients also completed several | **General Benefits of medications:**  
- Asthma medication permit the patient doing their activities  
- Taking medication help to achieve better control of asthma and alleviate the patients fear of asthma  
**General Drawbacks of medications:**  
- the need to establish a routine to take medications  
- concern about the availability of medications  
- General dislike to take the medication.  
- The fear of side effects.  
- The perception that asthma medications could be ineffective  
**Benefits of rescue medications:**  
- Rescue inhalers could be used to thwart symptoms if they were used before an activity the patient foresaw as a trigger. Patients acknowledged their own activity | | Good (32) |
**Questionnaires**, to assess asthma characteristics including the Severity of Asthma Scale and the Morisky Medication Adherence Questionnaire

**Analysis method:**
means and frequencies were calculated for patients and asthma characteristics

- limitations and trusted the inhaler would be effective in these situations.
  - Rescue medications offered quick and immediate symptom relief. Patients were able to recognize their own typical pattern of symptom onset and relied on rescue medications to promptly alleviate symptoms.
  - Third, rescue medications gave patients a sense of confidence in doing activities. Patients admitted they were more likely to participate in activities if their inhaler was close by and felt the inhaler made them more capable of doing these activities.
  - **Drawbacks of rescue medications:**
    - The necessity of planning ahead to make sure inhalers were readily available was the drawback most frequently mentioned (40%). Patients communicated a constant need to be prepared with an inhaler in case of emergency situations, regardless of asthma control. Some patients associated “trouble” with the absence of their inhaler and felt they could not participate in certain activities without it.
    - Another drawback patients reported was feeling stressed and afraid of adverse asthma outcomes when they did not have their

hold different beliefs about medication
inhaled. These fears compelled some patients to go out of their way to be prepared by storing inhalers at friends’ and family members’ homes and by interrupting plans and returning home for a forgotten inhaler.

- Some patients considered inhalers to be a hindrance because they were bulky.
- Patients also cited potential overuse as another drawback of rescue medications, which some patients reported they had done or had observed in others.

*There were no differences among those who cited benefits or drawbacks according to age, sex, and asthma duration or disease severity.*

*Caucasian patients were more likely to consider medications enablers to physical activity compared to African American patients and to note progress in medications compared to Hispanic/Latino patients. Caucasian patients also were more likely than African American patients to note that rescue medications could thwart symptoms before activities that were triggers.*
Aim: to investigate the relationship between perception of life events, psychological factors, coping and asthma admission in admitted and non-admitted groups of patients

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<tr>
<td>Jones et al 2008 UK</td>
<td>Design: Qualitative Study</td>
<td>Qualitative Interview</td>
<td><strong>Viewing of asthma</strong>&lt;br&gt;• Some patients there were a group who did not view their illness as a long-term or chronic condition. They often made a distinction between wheeziness and asthma attacks and tended to view asthma as a series of isolated incidents where they ‘get asthma’ or spoke about ‘the asthma’ in the way they might get a cold or a virus. In this way ‘asthma’ was distinguished from their everyday condition.</td>
<td><strong>Strengths</strong>&lt;br&gt;• The interview was piloted&lt;br&gt;• The researcher adopted a reflexive approach to the research process by incorporating methodological and theoretical openness&lt;br&gt;• Using the purposive sampling technique which allow a maximum diversity sample&lt;br&gt;• The analysis framework was described adequately&lt;br&gt;• The key categories were based on continuous comparison and cross referencing between different patient accounts and GP accounts</td>
<td>Good (34)</td>
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<td>Population:</td>
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<td>Impact of asthma&lt;br&gt;• People described their lives as often chaotic and complex&lt;br&gt;• experienced a range of either ongoing or isolated stressful experiences: included financial worries, employment issues, bereavement, housing problems, family difficulties and personal illness, alcohol problems and drug addiction, problems with neighbours, fear of and the</td>
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<td>50 asthma patients were admitted and 25 asthma patient who had not been admitted to hospital in the last 12 months&lt;br&gt;• 19 GPs</td>
<td>The interview conducted in the bedside in hospital and in the practice&lt;br&gt;<strong>Analysis method:</strong> adapted framework analysis</td>
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<td>Sample Size: 75+19= 94</td>
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<td>F/M: 47/28</td>
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<td>Age:16 and over</td>
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<td>Sample type: purposive sampling</td>
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Asthma severity: severe

Experience of violence or the threat of violence

**Barriers to manage asthma**
- individuals reported numerous social problems, lifestyle factors and life events that appeared to interfere with their capacity to engage both with primary care and preventative behaviour

**Use of services**
- Patients’ views tended to be accompanied by negative opinions of primary care. Accessibility and availability of appointments in primary care was an issue with many people reporting dissatisfaction with the process and waiting periods
- The relationship with the GP was an important factor in determining the form that help seeking behaviour took. Those with a good relationship with their GP would consult with their General Practice and try and get an appointment in the first instance, whereas those who reported a poor relationship with their GP often chose A+E as their first port of call.

They were interviewed in hospital. They might give different account if interviewed at a later stage. They may change their model of asthma to a less medicalised one and give different views of hospital staff.

- The presence or absence of any other co-morbidities was not given
• Hospital attenders tended to value professionals working in hospitals while reporting poor relationship with GPs
• Many patients reported dissatisfaction with asthma reviews and appointments. They felt they were told nothing new
Aim: to explore self-reported perception of asthma symptoms in African-Americans

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</table>
| 22. Trochtenberg and Belue 2007 USA | Population: asthma patients diagnosed with at least 1 year duration  
Sample Size: 39  
F/M: 27/12  
Age:18 and over  
Sample type: purposive sampling  
Asthma severity level is not mentioned however, 29% of the participants reported required emergency | Design: Qualitative Study  
Focus groups  
Analysis method: grounded theory analysis method | **Perceiving asthma attack symptoms**  
- Participants misperceive their symptoms during an asthma attack  
- Some of the participants did not know that change in their symptoms was indicative of an exacerbation of their asthma  
- Participants indicated difficulty detecting when their asthma was worsening and they relied on family and friends to tell them when their wheezing was worsening. This negatively affected their ability to manage their disease  
- Lack of correlation between symptoms perception and asthma severity  
**Perceiving asthma triggers**  
- Many of the participants were aware of their asthma triggers and attempted to eliminate interaction with identifiable triggers | Strengths  
- Utilization of the qualitative design with the focus groups allows in-depth descriptions of language used to characterize asthma symptoms and feelings about asthma  
Limitation  
- Although the study used the grounded theory methodology to guide the research, the principles of grounded theory was not clearly articulated especially the theoretical sampling and constant comparison and theoretical saturation.  
- Recall bias. The participants were asked to describe their symptoms of prior attacks | (31) Good |
| Department visit for the last 12 months | Perceiving asthma control  
- Some patients perceived that not taking medications meant they had greater control over their asthma | Viewing self during asthma attack  
- Most patients felt helpless and embarrassed during asthma exacerbation |
| Participants recruited via flyers posted at local minority university | Majority of the participants were well educated (college level) |
Aim: to explore existing and alternative asthma information and education sources in three urban minority communities in western New York

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<tr>
<td>Zayas and McLean, 2007, USA</td>
<td>The participants Adult asthmatics or caretaker of asthmatics</td>
<td>Design: Qualitative informed by critical theory perspective</td>
<td>Healthcare system asthma information sources: The participant cited the health care professionals as their primary or ideal source. They identified various materials available in the medical office including the verbal and written description, pamphlet, videos, and audiotapes. Pamphlet was deemed helpful. Poor communication or relationship with doctors and inadequate access to medical care were described as major problems in obtaining comprehensive information about asthma. Participants made some recommendations for improving health care access and asthma care in the setting office, such as expanding clinic hours, empowering patients to ask questions and listen more to their opinions, dedicating sufficient time and effort for patient education, making timely referrals and cultural competency training.</td>
<td>Strengths • Critical theory perspective is a rigorous qualitative methodology guideline that might facilitate to increase the robustness and validity of the findings. • Clear steps on how the study was conducted • The researchers conducted a search of the conflicting evidence in transcript, this would help to enhance the trustworthiness of the analysis</td>
<td>35 Good</td>
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<td>Sample Size: Focus groups: 59 Town hall: 109</td>
<td>Data collection: 4 Focus groups 4 Town hall meetings (3 opened to the community, regardless of diagnosis and 1 for high school students) Semi-structured interviews Questionnaire for demographic data</td>
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<td>Male/female: 14% / 86%</td>
<td>Analysis Method: A theory driven</td>
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<td>Age: not specified</td>
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<td>Asthma severity: 32% severe 45% moderate 24% mild</td>
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<td>Sampling Type:</td>
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<tr>
<td>Not specified</td>
<td>immersion-crystallisation approach</td>
<td>Media communications on asthma topics</td>
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<td>Participants, particularly the youth, recognised the value of the media in disseminating information and educating people about asthma</td>
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<td>Many participants recommended raising public awareness to promote a healthier environment and greater understanding and support of the health care needs of individuals with asthma.</td>
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<td>Public health/educational institutions</td>
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<td>Several participants revealed that they have obtained information about asthma at public health centres</td>
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<td>Other participants also procured asthma information at public and college libraries or in district schools</td>
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<td>Community/individual initiatives</td>
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<td>Participants described a variety of what one termed non-traditional programs specifically in response to the question regarding how else could people get information about asthma?</td>
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<td>Initiative of local residents</td>
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<td>Sharing information on asthma on neighbourhood meetings</td>
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<td></td>
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<td>participants’ preference for a group education intervention.</td>
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<td></td>
<td></td>
<td>- Opinions from people who are less satisfied with office-based asthma education or who can interact well in group settings.</td>
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<td></td>
<td></td>
<td>- No separate analysis of the accounts of patients with asthma and those who were care takers or general public.</td>
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<td></td>
<td></td>
<td>- Participants did not respond to every question and that the study does not adequately examine educational sources among urban minority youth.</td>
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<tr>
<td>Dissemination asthma information at supermarket and community centres</td>
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<tr>
<td>Distributing asthma information at clubs</td>
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<tr>
<td>Patient with asthma were viewed as potential teachers and thus as a source to others about asthma.</td>
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</table>

**Main recommendation:**
Community asthma workshops. This workshop was recommended by the participants to be community based and community driven in partnership with health care, academic or civic institutions.
Aim: describe how perception and experiences of patients with asthma or their caregivers affect disease management in a Puerto Rican community in Buffalo

<table>
<thead>
<tr>
<th>(Author, Year, Country)</th>
<th>Population</th>
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<th>Key Findings</th>
<th>Rigour</th>
<th>Hawker’s Scoring</th>
</tr>
</thead>
</table>
| 24. Tumiel-Berhalter and Zayas, 2006 USA | Population Sample Size: 22 Puerto Rican adults with asthma/caretaker of children with asthma | Design: qualitative | 2 Focus groups | Perceiving asthma  
- Participants clearly held a deceiving and deeply worrisome perception about asthma  
- Asthma was perceived by some as Traitor, deadly, demon, enemy and devil | Strengths  
- The focus groups moderator was trained in facilitation techniques by a qualitative research expert  
- Analysis done by four researchers trained in qualitative analysis  
- Three bilingual analysts consulted the Spanish transcriptions  
- The analysis followed a theory-emergent grounded theory approach | (34) Good |
| | The participants were invited through word mouth and flyers in community centres | A semi structured interview guide consisting of 6 questions about asthma perception, known triggers, management, health care utilization and other experiences and concerns was used | | | | |
| | Female % not specified | Analysis method: theory emergent grounded theory approach | | Perceiving asthma triggers  
- Heaters, pets, dust, house cleaning products and tobacco smoke | | | |
| | Age: 18 years and over | | | Impact of asthma on life/lifestyle restriction  
- Several participants described the limiting effect of their asthma on their physical activities  
- Lack of sleep  
- Missing school days  
- Concerns about unknown threats and uncertainties | | | |
| | Sample type: purposive sample | | | Coping with asthma  
- Some participants creatively adjusted their | | | |
<table>
<thead>
<tr>
<th>Asthma type: moderate to severe</th>
<th>Lifestyle to engage in new activities related to what they love to do</th>
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</thead>
<tbody>
<tr>
<td></td>
<td><strong>Reasons for emergency department use:</strong></td>
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<tr>
<td></td>
<td>- Medications ineffective</td>
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<tr>
<td></td>
<td>- Long term hospitalisation</td>
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<tr>
<td></td>
<td>- Lack of health insurance</td>
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</tbody>
</table>

**Medication side effects**

- Side effects included: vomiting, coated throat and hyperactivity
- Some participants were frustrated and confused by similarities between asthma symptoms and those of other illnesses
- Using cold medicine for coughing

**Coping strategies**

- Control household triggers
- Restriction of lifestyle pattern
- Engage in activities they love to do
- Sleep upright
- Avoided taking medication because of side effects and instead waited out for asthma episode
- Alternative medicine: deep breathing

- Characteristics of the participants
- The seasonal nature of asthma may have biased some of the responses (this study conducted on February and March which is the asthma season in Buffalo)
## Conclusion

- This study revealed a need for patient education that integrates perception of illness, concerns about potential medication side effects, the impact of lifestyle adjustment on quality of life, and recognition of and response to asthma symptoms.
Aim: to investigate why and how patients and parents of children with asthma use complementary therapies as part of their coping strategies
To explore their experience of the impact of complementary therapies on their condition
To consider the implications of the findings for overall delivery of high quality asthma care within the NHS.

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<tr>
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</thead>
</table>
| Shaw, Thompson and Sharp, 2006, UK | The participants (22 adults and 28 children with asthma (plus a parent)) Sample Size: 50 Male/female: 23/27 Age: >7 Asthma severity: not specified Sampling Type: purposeful | Design: Qualitative Data collection: Semi-structured interview Analysis Method: Thematic analysis drawing on the principles of constant comparison | Nature of complementary therapy use:  
- First, complementary therapies were the first port-of-call, and the NHS the last resort, for a minority of participants who held “alternative” philosophical beliefs about health that often differed from those underpinning conventional medicine  
- Other participants had a more pragmatic approach towards complementary therapies, seeking various treatments and self-help strategies to improve asthma symptoms and related health issues alongside their prescribed medication without a strong philosophical preference for complementary therapies.  
- Finally, a small group of participants were using complementary therapies somewhat in desperation, after trying conventional treatments and finding them to be ineffective at managing their or their child's condition | Strengths:  
- Adequate description provided about the research conduction  
- The use of constant comparison and theoretical sampling was clear  
- The findings of this study are likely to be transferable to asthma patients and parents using complementary therapies from similar backgrounds and settings in other parts of the UK  
- The findings of this study have fed into the design of a questionnaire that is being used in a survey of the prevalence of complementary therapy use among asthma patients in primary care, | 36 Good |
### How complementary therapies are accessed and used:
- Most common were Buteyko breathing techniques and homeopathy
- Sources of information on
- Complementary therapies and "referral" routes were primarily via word-of-mouth, health shops, the media, books or the internet.

### Motivating factors for complementary therapy use

**"Push factors" from conventional medicine**
- These included the following: concerns about drugs as standard first line treatment on diagnosis of asthma along with a lack of health promotion advice from NHS health professionals; concerns about side-effects and long-term dependence on asthma medication; and concerns about ongoing escalation of medication with limited benefit for controlling symptoms.
- Concerns about steroid use (both inhaled and oral) were the most prominent, including perceptions of connections with anabolic steroids and concerns about side effects.

### Limitation
- Patients from ethnic minority were under-represented

which will examine the generalisability of the study findings.
"Pull factors" from complementary therapies

- These included the following: a desire for "natural" or non-invasive treatments, qualities of complementary therapy consultations, personal commitment to "alternative" philosophies of health; and prior experiences of benefit from complementary therapies for other health problems or asthma.

The impact of using complementary therapies

- Regarding the impact on asthma symptoms, the therapy most commonly experienced as beneficial was breathing techniques. The main valued benefit was enhanced control over breathing without recourse to medication along with reduced medication use.

- While complementary therapies were not always experienced as effective for asthma symptoms, participants usually reported broader personal benefits from trying other ways of managing their condition.

The benefits of self-help: taking control versus dependence

- A key beneficial opportunity that complementary therapy use provided was to empower patients to help themselves.

- Participants valued techniques that enabled
them or their children to have greater personal control over their asthma, rather than being controlled by it.

- *Exploring a broader range of causes of asthma*

- Patients and parents often desired more understanding of what was causing the asthma symptoms, including a broader range of potential triggers

*Majority of complementary therapy users were female*
### Aim: to identify causal model of asthma and the context of conventional perception versus complementary and alternative medicine

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</thead>
</table>
| George et al., 2006, USA| Design: Qualitative The participants Asthmatic patients Sample Size: 28 Male/female: 2/26 Age: average 22-48 Asthma severity: not mentioned Sampling Type: purposeful sampling | Data collection: Semi-structured In-depth interview **Analysis Method:** Inductive analysis using the constant comparison approach | **Perceiving asthma causes**  
- Most patients (64%) accurately identified genetic or environmental factors as a cause of their asthma.  
- Few identified God as the source of their illness  
- Five subjects identified psychosocial stress as the cause of asthma  
- The sources of stress included single parenthood, husband's death, mother's death, sexual abuse experienced as a child, and domestic violence experienced as an adult.  
- One participant each reported alcohol abuse and dressing inappropriately in cold weather as the cause of their asthma  
**Type of complementary Use**  
- Biologically based practices were the most commonly reported CAM in this study | **Strengths**  
- The study followed rigorous qualitative methodology guidelines that increased the robustness and validity of the findings.  
**Limitation**  
- The sample included only low income  
- Interpretation was limited by the fact that 2 but all subjects were female  
- The small number of participants and the uniqueness of this population does not allow for generalizable results. | 36 Good |
**Reasons for CAM Use**
- Wanted Something Natural
- When medication failed to work
- Beliefs to cure asthma or relieve its symptoms

**Reasons for Conventional Prescription Use**
- 12 individuals (43%) described how trust in their asthma providers was an important factor in their decision to accept prescription asthma therapy
- It Works.
- It stays on me
Aim: to examine self-management beliefs, attitudes and behaviours in five adults admitted hospital for asthma

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</thead>
</table>
| Donald et al, 2005      | The participants Asthmatic patients | Design: Qualitative Data collection: Focus group Analysis Method: Thematic analysis | **Asthma triggers** Alcohol Stress cold **Reasons for delays seeking medical help** Dislike of hospital Desire to self-manage Not wanting to call an ambulance Uncertainty of severity of attack Lack of worsening of cues that asthma was worsening or severe **Experiencing the hospital services** Dealt with quickly and effectively **Self-management behaviour after hospital discharge** No need/unwilling to alter asthma management behaviour to improve asthma control and decrease the chance of further attack | **Strengths**  
- Independent analysis of transcripts by the second researcher which may enhance the rigour  
- The use of direct quotation  
- Using participants validation of transcripts and analysis  
- Adequate information of abstract, introduction and recruitment  
- Analysis procedure adequately discussed  
**Limitations**  
- Small sample size  
- The sampling technique not specified  
- No adequate information | 33 Good |
<table>
<thead>
<tr>
<th><strong>Change subsequent behaviour to both long term asthma management and future response to severe attack</strong></th>
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<tbody>
<tr>
<td><strong>Attitude about asthma medication</strong></td>
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<tr>
<td>Important to have reliever medication readily at hand</td>
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<tr>
<td>The cost of asthma medication was seen important</td>
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<tr>
<td><strong>Viewing the role of GP in asthma self-management</strong></td>
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<tr>
<td>Had important role in managing asthma</td>
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<tr>
<td>Shopping around doctors to find a doctor who knows them and that they trust</td>
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<td>The cost of GP consultation was considered</td>
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- No adequate details on how the focus group discussion was done of the participants
Aim: examined the patient perspective of medicines information of people with asthma

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<tbody>
<tr>
<td>28. Raynor et al., 2004 UK</td>
<td>People with asthma were recruited via posters in 6 community pharmacies in inner cities and suburban areas&lt;br&gt;Sample Size: 23&lt;br&gt;Female: 12&lt;br&gt;Age: 13-82&lt;br&gt;Sample type: not specified&lt;br&gt;Asthma severity: Variable severity&lt;br&gt;Duration of asthma: 6-40</td>
<td>Design: qualitative&lt;br&gt;Focus groups: The groups were held in private room in local hotel&lt;br&gt;&lt;br&gt;Analysis method: qualitative analysis</td>
<td><strong>Information needs</strong>&lt;br&gt;• while practical information on how to take medicine is generally good, information on the medicine themselves remain inadequate&lt;br&gt;• Some of the participants felt it was for them to seek out information&lt;br&gt;• The participants had a range of unmet needs but the desire for information on their personal risk of side effects was important theme&lt;br&gt;• Concern of the long-term effect of steroids: weighing the risks against the benefits&lt;br&gt;• Patients didn’t want to be told to do something they wanted to be told why. They needed to be involved in their treatment&lt;br&gt;&lt;br&gt;<strong>Patients view on written information</strong></td>
<td><strong>Strengths</strong>&lt;br&gt;• Participants were recruited from 10 different areas of the city with a wide range of educational achievement and income level&lt;br&gt;• The duration of asthma range of the participants was between 3-40 years&lt;br&gt;• Hiring a lay medicine user to keep the notes and observed the non-verbal interaction and ensured the project retained a user focus during the focus group discussion&lt;br&gt;• Detailed description of how focus group discussion was conducted&lt;br&gt;• The transcription was read in conjunction of observers notes&lt;br&gt;• Emerging themes were identified by two researcher and inconsistencies were discussed and agreed upon.</td>
<td>(27) Fair</td>
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<tr>
<td>years</td>
<td>Written information had a low priority and there was a lack of motivation in some to read or study anything. However, they did not reject written information completely; they thought it could be used more effectively.</td>
<td>Limitation</td>
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<td></td>
<td>Patients believed more on one to one information because it could be tailored to their needs and abilities</td>
<td>• Abstract was unstructured and did not include most of the study information</td>
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<td></td>
<td>Dislikes of the leaflet information</td>
<td>• Self-selecting nature of the participants</td>
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<td></td>
<td>They also raised the need to alert users when the content of the leaflet changes</td>
<td>• The ethics considerations were not discussed in this study</td>
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<td>Some users did not trust the leaflet, seeing them as a tool to sell the product</td>
<td>• Recruitment strategy was not discussed</td>
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<td></td>
<td>Involving patients in developing leaflets: only people who had asthma knew what it was like and so had a unique insight into what patients needed to know</td>
<td>• Sample characteristics were not given</td>
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</table>
Aim: to explore the reasons why individuals recurrently present with asthma to hospital emergency department

<table>
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<tr>
<th>(Author, Year, Country)</th>
<th>Population Characters/ Sample type</th>
<th>Study Design Data collection Method &amp; analysis</th>
<th>Key Findings</th>
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</thead>
<tbody>
<tr>
<td>Goeman et al, 2004 UK</td>
<td>People with asthma were recruited via recruited from tertiary hospital and suburban hospital, and rural hospital emergency department</td>
<td>Design: qualitative Semi-structured in-depth interviews European Community Respiratory Health Questionnaire</td>
<td>Prevalence of using the emergency department</td>
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<td></td>
<td>Sample Size: 62 Female: 50%</td>
<td>Analysis method: qualitative analysis</td>
<td>Two third of the patient in this study had severe chronic asthma, their attendance to ED was seen appropriate. The main reason in this group is experiencing life threatening attacks. One third had either chronic mild or moderate asthma attended the ED for several reasons, where some can potentially be prevented:</td>
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<tr>
<td></td>
<td>Age: 18-70</td>
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<td>Reasons for emergency department use:</td>
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<td></td>
<td>Asthma severity: Mild, moderate, severe (around half had severe asthma)</td>
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<td>- Respiratory tract infection</td>
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<td></td>
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<td>- Shortness of breath</td>
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<td></td>
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<td></td>
<td>- Medication use-concerns</td>
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<td></td>
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<td>- Medication cost</td>
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<td></td>
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<td></td>
<td>- Weather</td>
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<td></td>
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<td>- Desensitisation</td>
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<tr>
<th>Rigour</th>
<th>Hawker’s Scoring</th>
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<td></td>
<td>33 Good</td>
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</table>

Strengths
- Provide rich description of patients with asthma use the emergency department
- Adequate information given in abstract, introduction, and ethics
- Provide detailed sample characteristics
- Thematic saturation was reached as the author mentioned. However, not mentioned how.

Limitations:
- For recruitment strategy, the reader was referred to another study
- Sampling technique was not mentioned
<table>
<thead>
<tr>
<th>Duration of asthma: not specified</th>
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<tbody>
<tr>
<td>Sample type: not specified</td>
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</table>
Aim: examine the patients-doctor relationship in those presenting to hospital emergency department

<table>
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<tr>
<th>(Author, Year, Country)</th>
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<th>Hawker’s Scoring</th>
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<tbody>
<tr>
<td>30. Douglass et al, 2004 UK</td>
<td>People with asthma who attended the emergency department in three hospitals</td>
<td>Design: qualitative Semi-structured In-depth interview</td>
<td><strong>Patient-doctor relationship</strong> Two thirds of the participants had poor relationship with their doctors Patients blamed their doctors for failing to prevent an asthma attack which lead them to hospital presentation Patient felt their personal understanding of their illness was not heard <strong>Perceiving medical consultation</strong> 1. <strong>What makes a good doctor:</strong> Being knowledgeable Asking proactive questions Signalling to patients the area they felt was important Sit down and listen to them 2. <strong>Time constraints</strong> Not getting enough time to sit and discuss their concern</td>
<td><strong>Strengths</strong>  • Adequate information given in abstract, introduction, and ethics  • Recruitment strategy was discussed  • Provides adequate details of sample characters <strong>Limitation</strong>  • For analysis methods, the reader was referred to another study  • Sampling technique was not mentioned</td>
<td>33 Good</td>
</tr>
</tbody>
</table>
3. **Recognition of patients’ expertise**  
Expected the doctor to be respectful of their knowledge and experience of disease.

4. **Content of consultation**  
The content of consultation varied according to the patient experience with their asthma.

Those who were recently diagnosed appreciated education about their disease.

Patients with greater experience were more directive in their relationship with the doctor.

Medical consultation involved prescribing medication.

Making a value judgement whether the doctor can add to their asthma knowledge or understanding.

**Reasons of using emergency care**

Access to care

Convenience

Perceptions of quality

Time it takes

Cost of care
Aim: to explore how do mothers with asthma manage their illness

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<tr>
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</table>
| 31. Van Mens-Verhulst et al, 2004 Canada | Four Dutch and four Canadian mothers living with asthma | Design: qualitative Semi-structured interviews | **Triggers/ Challenges in living with asthma**  
- The exertion associated with house duties including taking care of children and cooking, shopping and attending other activities with family  
- Having pets  
- The expected attendance at crowding school events  
- Adolescents experimentation with cigarettes  
- Employment outside home cause fatigue  
**Affective response to asthma**  
- Knowing that asthma attack might not only threaten their lives but also might prevent them from taking care of their children  
- Hereditary aspect of asthma: Feeling of guilt that they gave asthma to their | | | | | 34 Good |

**Strengths**
- Provides insight on the challenges faced by the mother with asthma and their strategies in living with their illness
- Participants varied in their type of asthma, age, educational level, and employment outside home, income, number of children and presence of partner.
- Provides adequate information of the research participants and methods
- Recruitment strategy sampling technique were adequately discussed
- Coding was done by two researcher and consensus was reached

**Limitations**
- Abstract does not provide adequate
<table>
<thead>
<tr>
<th>children</th>
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<tbody>
<tr>
<td>• The disbelief of their families in the severity of their medical condition</td>
</tr>
<tr>
<td>• Asking children for help may violate the norms of mothering</td>
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**Strategies in living with asthma**

1. **Traditional prevention**  
   Environmental control and lifestyle adaptation  
   Making compromises

2. **Normalising: pass as being normal**  
   dealing flexibly with mothering tasks, times and activities  
   Hiding from others to avoid disclosing their condition and offer excuses concealing the reasons of their behaviours.  
   Escaping from their own embarrassment about having asthma  
   Going public by being open and educating others

<table>
<thead>
<tr>
<th>information about the study</th>
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<tr>
<td>• Small sample size</td>
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</table>
3. **Mobilising support**

- Emotional support
- Physical support/ by family members or hiring help
- Having partner did not seem to offer much advantage in terms of illness management
**Aim:** identify the factors which motivate patients’ self-management in asthma

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</table>
| Steven et al, 2002 UK  | People with asthma were Sample Size: 23 Female: 11 Age: 20-47 Sample type: not specified Asthma severity: Variable severity Duration of asthma > 2 years | Design: cross-sectional qualitative survey In-depth interview Analysis method: framework method | **Patients’ asthma goals** Cure perceived as no symptoms and no required need for using inhalers Control expressed in terms of the management of symptoms and the management of inhalers **Influences on changing behaviour** The effect of asthma on self-image The experience of symptoms The value of the life experience affected The perceived consequences of asthma Denial of the diagnosis | Strengths  
- Sample characters was adequately given  
- Topic guide is given  
- Pilot interviews done  
- Inclusion and exclusion criteria were given  
**Limitation**  
- Sampling technique not specified  
- Did not provide the revised interview guide  
- Referring the reader to another study for details about the analysis method used | 33 Good |
Aim: to investigate the perspective of patients with asthma on the use of an action plan and the implementation of this plan during an asthma attack that culminated in a visit to an emergency department.

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| Douglass et al., 2002, Australia | Population: 37% recruited from central city, 47% suburban areas and 16% rural areas. Participants presented to an emergency department with asthma over a two months period. | Design: qualitative study Semi-structured in-depth interview Personal details and respiratory health data were collected using questionnaire | Having action plan:  
- less than half had an action plan given by their doctor  
- many derived an action plan independently from their personal understanding of body awareness and alternative remedies  
Reasons of not having action plan  
- The most common reason for not having an action plan was simply that the patient had not been given one by his or her doctor. | Strengths  
- The sample represent a range of asthma severity and geographical location  
- Participants characteristics were adequately provided  
- Thematic analysis was conducted after transcription of interviews, with contemporaneous analysis conducted by several researchers to enhance the validity of emergent themes | (34) Good |
- Modifying action plan: underpinned by patients’ personal experiences and perceptions of asthma  
- Not confident in using it due to their perception that they are not | Limitations  
- The study provides a very brief background which had no research question and objectives  
- Sampling techniques not specified | |
<table>
<thead>
<tr>
<th>mild, 20 moderate, 30 severe</th>
<th>asthmatics</th>
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<tr>
<td>Not using it due to the lack of body awareness which influence their confidence in interpreting their attacks and determining the need to use action plan</td>
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**Perceiving the important of action plan**
- Action plans for asthma were considered useful or desirable by many patients with the disease and that even when the patients denied the existence of action plan they constructed their own plan of action
- several patients did not see action plan suitable for them because of lack of clarity about a diagnosis of asthma

**Action plan and level of knowledge**
- The score of asthma knowledge did not differ between those who had action plan and those who were not confident to use it
Aim: to explore the burden of asthma on the lives of people presenting to hospital emergency departments for asthma treatment

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<tbody>
<tr>
<td>Goeman et al, 2002</td>
<td>Australia</td>
<td>Design: qualitative study</td>
<td>Semi-structured in-depth interview</td>
<td><strong>Using asthma medical treatment</strong>&lt;br&gt;1. cost of asthma treatment including medications and health services&lt;br&gt;Ways to overcome the treatment cost issue:&lt;br&gt;• Buying medication&lt;br&gt;• Lowering doses to prolong medication use&lt;br&gt;• Reduce the use of preventive medication&lt;br&gt;2. Side effects of medication&lt;br&gt;Patients considered the severity of side effects and benefits of medications in deciding using the treatment&lt;br&gt;Patient who perceived their asthma symptoms as mild and sporadic make their own judgement of the risk of side effect and the potential risk of future asthma attack</td>
<td>Strengths&lt;br&gt;• The sample represent a range of asthma severity and geographical location&lt;br&gt;• Participants characteristics were adequately provided&lt;br&gt;• Thematic analysis was conducted after transcription of interviews, with contemporaneous analysis conducted by several researchers to enhance the validity of emergent themes</td>
<td>Good</td>
</tr>
<tr>
<td>Asthma severity: 12 mild, 20 moderate, 30 severe</td>
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<table>
<thead>
<tr>
<th><strong>Attending the medical visits: was influenced by the:</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>- Cost</td>
</tr>
<tr>
<td>- Necessity to take off day from work</td>
</tr>
<tr>
<td>- Travel</td>
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<tr>
<td>- Waiting times</td>
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<tr>
<td>- Anticipated benefits</td>
</tr>
</tbody>
</table>

**Impact of asthma**

1. **Employment and financial burden**
   - Losing their job; losing income
   - Changing their jobs: choosing flexible employment
   - Lost days from work and other normal activities: this was associated to asthma severity

2. **Impact on daily life**
   - Asthma affected their emotional and physical relationship with their partner
   - Caused fear and panic
   - Caused changing plans

3. **Impact on family and friends**
   - Asthma causing emotional disturbance as they watch their beloved asthma person suffering
4. **Dependence versus independence: role change**

Experiencing a dilemma from wanting to be independent of help when feeling well to needing assistance during an attack
Aim: to explore knowledge about asthma attitudes, perception, health beliefs and health needs of those from Pakistan and India

<table>
<thead>
<tr>
<th>(Author, Year, Country)</th>
<th>Population Characters/ Sample type</th>
<th>Study Design Data collection Method &amp; analysis</th>
<th>Key Findings</th>
<th>Rigour</th>
<th>Hawker’s Scoring</th>
</tr>
</thead>
</table>
| Hussein and Partridge 2002 UK | Pakistani and Indian patients | Design: Qualitative Semi-structured interview open-ended questions (12 participants) And 3 Focus groups (48 participants) Conducted with the community group | **Perceiving asthma**  
- All participants with asthma were aware that it is a condition associated with cough, wheeze, difficulty breathing  
**Perceiving asthma causes**  
- Uncertain  
**Perceiving asthma triggers**  
- Smoking  
- Pollution  
- Consumption of spicy foods and fizzy drinks  
- Exercise, laughing, hay fever, dust, cold areas  
**Reacting to asthma diagnosis**  
- Accept asthma as asthma given by God  
- Accept asthma as they were not aware of any serious problem associated by asthma | **Strengths**  
- This study addressed an important and unexplored subject of asthma knowledge, perceptions and self-management in minority cultural groups  
- Data analysis procedures were detailed  
- The main keys of the interview guide were given | **Limitation**  
- The researcher only managed to recruit one first-generation immigrant and therefore could not compare the health education needs of first and second generation immigrants which was one of the original aims of the study  
- The focus group was conducted in English with members of the community | (32) Good |
Reaction to asthma sufferers from relatives, friends and employers

- Most felt that friends, relatives, and employers were very supportive
- One participant did not disclose his asthma as asthma was not accepted in Asian society
- One participant informed by relative that steroid will make him fat and asthma will get worse when he grows old.

Managing asthma (medical and alternative)

- The majority of patients with asthma were aware of the difference between the reliever and preventer inhalers, although some stopped using the inhaled steroids because they felt they were ineffective.
- They were also well informed about on alternative therapies and willing to try them should the treatment provided by their GP fail to resolve their symptoms

Satisfaction with health care professionals

- A majority of patients with asthma was dissatisfied with the asthma care
provided by their GPs, mentioning delays in making the diagnosis and deficiencies in providing verbal and written information on asthma

**Self-management plan**
- There was a lack of awareness about self-management plan amongst patients with asthma but when explained the concept was well received and there seemed to be approval for the idea of written action plan

**Information about asthma**
- Most felt that their healthcare professionals gave them adequate verbal information about asthma and how to use inhalers
- Most did not get written information from their healthcare professionals
- One to one discussion and using videos perceived would be more useful
- Written information on asthma in Urdu would be useful but this might be a time limited need because it would be of no value to their offspring
Aim: to gain insight into patients’ perspectives on key information needs regarding their asthma

<table>
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<th>Rigour</th>
<th>Hawker’s Scoring</th>
</tr>
</thead>
<tbody>
<tr>
<td>Caress et al 2002 UK</td>
<td>Population: Patients with asthma</td>
<td>Design: exploratory qualitative study</td>
<td>Perceived information needs: • These covered a range of concerns like physiological effects of asthma, medication, triggers of an asthma attack, lifestyle issues, asthma causation, effects of asthma, long term outcomes and symptoms control</td>
<td>Strengths • The study qualitative design gives it high internal validity • Data collection and analysis was clearly stated • Provided an adequate information on recruitment process • The purposive sampling with selection of respondents being guided by relevant literature to some extent have compensated for the low recruitment rate • Participants were recruited from 5 sites, 4 primary care and 1 secondary care</td>
<td>34 Good</td>
</tr>
</tbody>
</table>

- Ethnicity: not mentioned
- Sample Size: 32
- Female: 15
- Age: 18-84
- Sample type: purposive sample
- Asthma severity level: not specified

Analysis method: line by line content analysis after Strauss and Corbin

Limitation • The study qualitative design gives it low external validity
and hence limited the generalisability

- The recruitment was lower from primary than secondary care which may influence the themes which were identified
- The exclusion of individuals from minority ethnic groups who could not hold a conversation in English
<table>
<thead>
<tr>
<th>(Author, Year, Country)</th>
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</tr>
</thead>
<tbody>
<tr>
<td>37. Harris, Mgt and Shearer, 2001, Australia</td>
<td>The participants Adult patients with asthma</td>
<td>Design: Qualitative Data collection: Unstructured interviews Analysis Method: The process of immersion and crystallisation</td>
<td><strong>Perception and beliefs of asthma</strong> Analysis of patterns identified four sub-groups, or “streams,” of adults with asthma. These streams were characterized by the individual’s response to asthma, beliefs about medication and specific medication types, beliefs about the role of doctors, and relationship with a doctor. <strong>Individuals in Stream 1</strong>  - Doubt that their symptoms really constitute asthma.  - They may have adjusted aspects of their lifestyles to avoid symptoms but have no history of emergency presentation.  - They perceive themselves to be at any risk from asthma and see no need to seek information or education about asthma or its management.  - They manage their asthma outside the organized health system</td>
<td><strong>Strengths</strong>  - Adequate information in abstract and introduction  - Large sample size  - Data collection and analysis was clearly stated  - Provided an adequate information on recruitment process <strong>Limitations:</strong>  - No separate analysis of the findings by gender  - Using snowballing sampling technique</td>
<td>33 Good</td>
</tr>
</tbody>
</table>
Individuals in Stream 2

- feel dependent on inhaled bronchodilator to deal with frequent symptoms.
- Most have ongoing experience of disrupted lifestyles, nocturnal asthma, and repeated acute exacerbations that frighten them and necessitate their presenting to primary care physicians or hospital.
- These individuals have limited knowledge about asthma and are passive with respect to new information about asthma.
- Their expectation is that the pattern of their asthma will not change in the future.
- Individuals have a range of attitudes towards asthma, from denial to passive acceptance, and towards medication, from a “necessary evil” forced on them to something that allows them to get on with life.
- Many try to ignore asthma by dismissing medical advice, not complying with preventer and rejecting educational initiatives.
**Individuals in Stream 3**

- Confident they are maintaining good asthma control, usually in comparison to a far worse situation at some time in the past.
- They attribute their improved control to a working relationship formed with one doctor, usually a primary care physician, whose approach caused them to rethink their attitude to asthma.
- Knowledge of asthma and consciousness of risk among those in this stream are often confined to these experiences, using their past experience as a comparator.
- They comply fully with an agreed plan to control their asthma and have irregular reviews with this same doctor, but they continue to use inhaled bronchodilators more frequently than is recommended and suffer lifestyle constraints due to their asthma; hence, we have characterized this stream as “suboptimal.”
Individuals in Stream 4

- Confident of their asthma control but with higher expectations in terms of outcomes than those in Stream 3. They expect to lead unconstrained lifestyles and aim to be free of symptoms.
- They accept constraints only after exhausting management options and remain alert to new options.
- They comply fully with this agreed management plan and seek reviews if the patterns of asthma or outcomes vary from their expectation.
Aim: to explore the views of people with asthma about the organization of asthma care in general practice

<table>
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</thead>
</table>
| Paterson and Britten, 2000 UK | Population Sample Size: 20 (14 patients and 6 children’s parents) Ethnicity: not specified Female: 11 Age: 5-87 (8 were between 16-60 years of age) Sample type: purposive sample Asthma severity: wide range of disease severity | Design: qualitative (This study was part of a wider study) Semi-structured interviews Most of the interviews done at participants homes | **Perceiving asthma:**  
- People described asthma as a lived-in illness that they must adapt and learn to live with and their requirement of care changed over time  
**Perceiving asthma triggers**  
- Cigarette smoking and traffic pollution were important triggers. People described the difficulties in they had in avoiding traffic fumes and public places and friends’ houses where smoking was permitted  
**Seeking medical help**  
- A decision to attend for medical care was made in the context of all life’s other priorities like work and child commitment, transport, financial problem, being housebound owing to other illness  
- Doctors were generally seen as more available than asthma nurse  
- The interviewees split between to be seen | Strengths  
- Using an independent researcher to select the sample according to an explicit sampling strategy and carry out the interview  
- Interview was piloted (1 patient) and the interview question revised accordingly  
- Involving a social scientist experienced in qualitative research to independently code four interview and to discuss analysis  
- Authors discussed how the themes were emerged  
- Relating the findings to a wider social theory concerning chronic illness  
- Adequate information in abstract and introduction  
- Data collection and analysis was | 31 Good |
regularly in the clinic and wishing only to attend when needing help

- Several of interviewee who were enthusiastic about managing their own asthma were also enthusiastic about regular attendance at the clinic which gave them confidence to take responsibility for their asthma for the rest of time

- Majority of people were in favour of asthma care aiming to teach people to manage asthma for themselves

### Factors affecting the type of care

- Majority of people mentioned the severity of their asthma as influencing the type of care they needed

- **Uncertainty** was also expressed in relation to diagnosis and the future illness trajectory

### Self-knowledge and self-management

- Three people expressed their strongly held views about knowing their own and their own children’s signs and symptoms of asthma better than anyone else could. These people desire to manage their own asthma, though they appreciate a regular review as a back up

- Provided an adequate information on recruitment process

### Limitation

- The study carried out in one practice

- The interviews were one-off and relatively short

- The researcher analysed the interview was a general practitioner in the practice

- The ethics considerations were not discussed in this part of the study
Several other people indicated that they wished to take the lead or be in control of how their asthma was managed or that they monitored it carefully themselves with peak flow measurement or that their main requirement was to be able to get an appointment when they needed it.

In contrast three people left the treatment of their asthma in the hand of doctors or nurses or they did what they were told.

Coping strategies

Coping mechanisms identified in this study were establishing control, doing what I am told, being monitored, describing their asthma as mild, avoidance of triggers, attending regular checks, telephoning for advice when required and using repeat prescription services.

Perceiving the previous experience of care

Nearly one half of the interviews were enthusiastic about the specialist knowledge and role they perceived the asthma-trained nurses having.

Several interviewees ventured that they may know more about asthma than doctors who had so many other things to deal with.
• Several people had reservation about seeing the nurse, especially when the asthma was more severe
• A number of people expressed concern about wasting the doctor’s time
Aim: to explore the views held by general practitioners, practice nurses and patients about role of guided self-management plans in asthma care

<table>
<thead>
<tr>
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</tr>
</thead>
</table>
| Jones et al., 2000 UK   | Design: Qualitative Exploratory   | Nine Focus groups Held separately that each met on two occasions | Perceiving asthma  
• Many patients with mild to moderate asthma regard it as a chronic disease that needs regular monitoring and therapeutic adjustment.  
Perceiving asthma treatment  
• They prefer to manage it as an intermittent acute disorder  
Perceiving self-management  
• they are uncomfortable with a guided self-management plan that reinforces asthma a chronic ongoing disease needing monitoring and managing  
• self-management was perceived as taking medication as they saw fit, avoiding triggers, that brought on asthma, and requesting medical assistance only when self-care failed  
• Non-compliant felt guided self-management plan could be useful for people with more serious asthma. | Strengths  
• Sampling method (purposive sampling) which allowed wide range of experience and views in the groups  
• The doctors and nurses were recruited from different practices  
• Fieldwork was carried by an experienced qualitative researcher  
• The accounts of patients and healthcare professional were discussed separately  
Limitations  
• The way the data were analysed were not clear  
• Patients with severe asthma were not represented in this study | 30 Good |
## Mixed Methods Studies

Aim: to examine the experiences of urban people with asthma in controlling their asthma symptoms

<table>
<thead>
<tr>
<th>(Author, Year, Country)</th>
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</tr>
</thead>
</table>
| 40. Keddem et al., 2015, USA | Sampling Type: stratified sampling, purposive quota sampling approach | Design: Mixed method approach | **Perceiving asthma attack triggers**  
- Patients with uncontrolled asthma perceived stress and emotions the primary triggers  
- dirt/dust and weather were in the top 4 most salient responses across all three BMI categories  
- In describing what makes it hard to take care of their asthma, all three BMI (underweight, overweight, obese) groups indicated stress. While stress was listed in the top four salient responses for overweight and obese participants, it appears twelfth for underweight/normal respondents.  
- Weather, foods, animals, dirt/dust; emotions were common across all age groups.  
- Emotion and not active were common across all age group and in the three of | Strengths  
- By combining these methodologies, respondents’ perceptions were contextualised in the framework of the actual community and built environment to tell a more complete story.  
- Qualitative study employed a naturalistic approach  
- GIS is a tool that provide the researcher with the ability to bring to life any type of special knowledge or experience  
- Participant selection and recruitment clearly explained  
- Triangulation of data collection methods enriched exploration of patients’ perspectives and activity measurement | 33 Good |
<table>
<thead>
<tr>
<th><strong>Asthma severity:</strong> 71% had uncontrolled asthma</th>
</tr>
</thead>
<tbody>
<tr>
<td>and survey data</td>
</tr>
<tr>
<td>Level of crime was collected from city’s police and streets departments</td>
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<tr>
<td>Data on vacant properties were collected from the US postal services.</td>
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<tr>
<td>Locations and boundaries of parks and recreations from the city of Philadelphia department of parks and recreation</td>
</tr>
<tr>
<td>Asthma control was calculated using metrics</td>
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</table>

**Analysis Method:**
Using Anthropic, a software program designed to analyse free-list data, the dataset was imported. GIS: Geo-spatial analysis was used to analyse and visually the five zip code regions.

- Across all educational levels, emotions and dirt/dust were listed as a trigger. Emotion was also listed as barrier to staying healthy and listed in the top three most salient responses across all educational level.
- To keep healthy, respondent from all educational levels listed physical activity. Stress was listed by all respondents as something makes it hard to care for their asthma.
- Both men and women listed dirt/dust and emotions as triggers of their asthma. Emotions came up at the top the list for women as something that makes it difficult to keep healthy while emotions were listed last for men in response to this question. **Perceiving strategies to control asthma attacks**
  - Patients with uncontrolled asthma happiness and faith as a way of controlling their asthma
  - The obese and overweight participants mentioned reduce stress.

**Limitations**
- Small sample size
- the reliance on the administrative data (secondary analysis) to generate the composite map
- Mixed methods study design not indicated
| Represent the influence and intensity of each of these neighbourhood characteristics on asthma control | • Only women mentioned avoiding stress as a way to keep healthy.  
• Both male and female listed the physical activity in their top two most salient responses to the question what do you do to keep healthy?  
• Both men and women listed reduce stress as a way to control their asthma |
Aim: to investigate the disease prospective of older people with asthma and barriers which may exist and prevent optimal asthma care

<table>
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</tr>
</thead>
</table>
| Goeman et al., 2007, Australia | The participants people with doctor-diagnosed asthma recruited from an inner city, suburban area and a rural region | Design: Mixed method | **Perceiving asthma:**  
- Participants with a duration of asthma of more than 30 years spoke of the concept of learning “to know your body”.  
- Study participants continue to use their past experience and their current medical treatments to manage their asthma symptoms.  
- Many patients whose asthma onset was more recent or only occasional, lacked the understanding of asthma and knowledge about available treatments and had little past personal experience to draw upon to help them manage an attack. This kind of patients sought to understand what asthma and why it developed. | Strength  
- Quantitative and qualitative data were discussed first separately and then combined  
- Adequate information in abstract and introduction  
- Methods of data collection and data analysis appropriate and clearly described  
- Thematic saturation was reported identified indicated the validity for the sampling techniques | 35 Good |
| | Ethnicity: not specified | **Data collection:**  
Quantitative data: collected using the European Community Respiratory Health Survey (ECRHS), asthma control asthma related quality of life (AqoL), asthma knowledge and demographics together with spirometry. Lung function was measure before and after bronchodilator according to the American Thoracic Society (ATS). Asthma severity and control were determined according |  | Limitation  
- Mixed methods study design not indicated  
- The research did not include older people | |
### Asthma severity:
- Intermittent: 12
- Mildly persistent: 15
- Moderately persistent: 14
- Severely persistent: 7

*7 participants were found to have the criteria of COPD.

- To GINA guidelines.

#### Qualitative data:
- In-depth interview and field notes.

#### Analysis Method:
- Quantitative data: spirometry results and questionnaire entered into SPSS. Within group comparison were performed using the t tests as the data were normally distributed. Results were presented as means and standard deviation.

#### Qualitative data:
- The qualitative data and field note were entered into N6 qualitative software. They initially coded into broad topic areas using content analysis and the constant comparative method management practices to overcome an attack.

### Having Action Plan:
- Only 20% of the population owned a written action plan. No relationship was found between the duration of asthma and owning an action plan.
- Participants with more recent asthma found engaged in using the medication in response to their symptoms.

- From ethnic communities.
Quantitative data were also imported in N6 program to provide descriptive codes enabling the identification of patterns based on the objective measurement and triangulation of data sets.
Aim: evaluate the patients understanding of their asthma and determine patients’ preferences regarding the delivery of asthma care and treatment

<table>
<thead>
<tr>
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</tr>
</thead>
</table>
| Haughney et al., 2004 UK | Quantitative sample size: 517 Female: 62% Age: 15-65 Sample type: quota sampling Qualitative sample Size: 40 Female: 20 Age: 14-65 Sample type: Purposive sampling Asthma severity: mild to moderate, persistent asthma | Design: Mixed method Qualitative phase: Semi-structured interview Analysis method: thematic analysis Quantitative phase: Structured interview using questionnaire (attitudes towards asthma, perception of treatment, review perceptions, treatment and review preferences) Analysis method: descriptive analysis | **Perceiving asthma**  
- A round three quarter of the sample felt their asthma would not be improve over time  
**Managing asthma**  
- Most of patients were unaware of asthma symptoms management goals  
- Significant minority of patients did not conform to the guidelines on the use of reliever medication  
- This study indicated the over-independence or overuse of patients to their reliever medications  
- Poor compliance with preventer medication was commonplace  
**Self-managing role**  
- A lack of education supporting patient to take guided role in the management of their asthma was highlighted  
- Almost third of the respondents changed their treatment based solely on their own | | 29 Good |

Strengths  
- Patients were recruited from seven locations in UK. This was to ensure the range of geographical locations  
- A spread of age, gender and socio-economic status was achieved  
- Equal split of male and female distribution  
- The semi-structured interview schedule was developed by the author and supported by members of expert panel  
- Questions were based on recent evidence of patient knowledge and attitudes  
- All interviews were face to face |
experience and that majority reported never having been provided with written information by their health care professionals on how to take their prescribed medication further.

- Patients were aware that their asthma will vary throughout the day and year and that their medication can be adjusted accordingly. Despite this fact, patients did not step down their level of medication in line with milder symptoms.

- Almost three-quarters of the respondents said they had never been given any advice on how their asthma might change in the future.

- Half of the sample reported that they had no regular discussion with a healthcare professional about their asthma.

- Large number of patients spoke to their doctors only when they had a problem.

### Limitations

- The recruitment strategy of the qualitative sample was not discussed.
- Research questions and objectives were not provided.
- Attainment of ethical approval was not adequately discussed.
- The questionnaire used for the structured interview was not provided in the study, however the components were highlighted.
- Mixed methods design not specified.
## Appendix 6: Methodology and methods utilised in the reviewed studies

<table>
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<tr>
<th>Research methodology</th>
<th>Studies</th>
<th>Sampling Techniques</th>
<th>Data collection methods</th>
<th>Analysis techniques</th>
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</thead>
<tbody>
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<td>Grounded Theory studies (1)</td>
<td>Roddis et al., 2016</td>
<td>Purposive and theoretical</td>
<td>Semi-structured interviews</td>
<td>Charmaz analysis approach</td>
</tr>
<tr>
<td>Case studies design (2)</td>
<td>Pelaez et al., 2015</td>
<td>Purposive (criterion based)</td>
<td>Face-to-face interview</td>
<td>Thematic analysis</td>
</tr>
<tr>
<td></td>
<td>Pelaez et al., 2014</td>
<td>purposive</td>
<td>Focus groups</td>
<td>Inductive coding, constant coding and cross case analysis</td>
</tr>
<tr>
<td>Phenomenology studies (1)</td>
<td>Oncel et al., 2012</td>
<td>Purposive</td>
<td>Writing letters</td>
<td>Continuous comparative analysis</td>
</tr>
<tr>
<td>Qualitative informed by critical theory perspectives (1)</td>
<td>Zayas and McLean, 2007</td>
<td>Not specified</td>
<td>Focus groups Meetings</td>
<td>A theory driven immersion-crystallisation approach</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Semi-structured interviews questionnaire</td>
<td></td>
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<tr>
<td>Participatory research (1)</td>
<td>Poureslami et al., 2011</td>
<td>Not specified</td>
<td>Focus groups</td>
<td>Thematic analysis</td>
</tr>
<tr>
<td>Cross-sectional qualitative survey (3)</td>
<td>Mancuso et al, 2009</td>
<td>Convenience</td>
<td>Open-ended questions interviews</td>
<td>Line-by-line analysis</td>
</tr>
<tr>
<td></td>
<td>Choi et al., 2008</td>
<td>Convenience</td>
<td>Open-ended questions interviews</td>
<td>Qualitative techniques</td>
</tr>
<tr>
<td></td>
<td>Steven et al, 2002</td>
<td>Not specified</td>
<td>Semi-structured in-depth interviews</td>
<td>Framework methods</td>
</tr>
<tr>
<td>Exploratory research (7)</td>
<td>Cheung et al., 2018</td>
<td>Not specified</td>
<td>completed survey about perceived control of asthma, illness perception, quality of life, self-management and sociodemographic information</td>
<td>Analysis approach was not specified</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>completed a lung function</td>
<td>Data coding followed the key elements of Common sense model of self-regulation</td>
</tr>
<tr>
<td>Study</td>
<td>Sampling Method</td>
<td>Data Collection Method</td>
<td>Data Analysis Method</td>
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<tr>
<td>Al-kalemji et al., 2014</td>
<td>Not specified</td>
<td>Asthma and QOL Questionnaires Semi-structured interview</td>
<td>Thematic analysis</td>
<td></td>
</tr>
<tr>
<td>Melton et al., 2014</td>
<td>convenience</td>
<td>Semi-structured interview</td>
<td>Interpretative phenomenological analysis (IPA)</td>
<td></td>
</tr>
<tr>
<td>Denford et al., 2013</td>
<td>Convenience</td>
<td>Semi-structured interview</td>
<td>Thematic analysis</td>
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<tr>
<td>Williams et al., 2011</td>
<td>Purposive</td>
<td>Semi-structured interviews</td>
<td>Thematic framework methodology</td>
<td></td>
</tr>
<tr>
<td>Caress et al., 2002</td>
<td>Purposive</td>
<td>Focused conversation style interviews</td>
<td>line by line content analysis after Strauss and Corbin</td>
<td></td>
</tr>
<tr>
<td>Jones et al., 2000</td>
<td>Purposive</td>
<td>Focus groups</td>
<td>Qualitative analysis</td>
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<td>Donald et al., 2005</td>
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<td>Thematic analysis</td>
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<td>Raynor et al., 2004</td>
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<td>Qualitative analysis</td>
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<td>Qualitative analysis</td>
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<td>Semi-structured interviews</td>
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<td>Analysis</td>
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<td>----------</td>
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<td>Harris, Mgt and Shearer, 2001</td>
<td>Focus groups</td>
<td>grouping data and development of themes and concepts</td>
<td>Harris, Mgt and Shearer, 2001</td>
<td>Snowballing</td>
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<td>Purposive</td>
<td>Semi-structured interviews</td>
<td>Paterson and Britten, 2000</td>
<td>Snowballing</td>
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<td><strong>Mixed Methods Studies</strong></td>
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<td>Keddem et al., 2015</td>
<td>stratified sampling, purposive quota sampling approach</td>
<td>Semi-structured interviews</td>
<td>Keddem et al., 2015</td>
<td>stratified sampling, purposive quota sampling approach</td>
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<td>Quantitative data: European Community Respiratory Health Survey (ECRHS)</td>
<td>Goeman et al., 2007</td>
<td>Quantitative: Convenient</td>
</tr>
<tr>
<td></td>
<td>Qualitative: purposive and theoretical</td>
<td>Asthma control asthma related quality of life (AqoL), asthma knowledge and demographics together with spirometry.</td>
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</tr>
<tr>
<td></td>
<td></td>
<td>Lung function was measure before and after bronchodilator according to the American Thoracic Society (ATS).</td>
<td></td>
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</tr>
</tbody>
</table>
Asthma severity and control were determined according to GINA guidelines.

*Qualitative data*: in-depth interview and field notes

| Haughney et al., 2004 | Purposive Quota sampling | Qualitative phase: Semi-structured interview
Quantitative phase: Structured interview using questionnaire (attitudes towards asthma, perception of treatment, review perceptions, treatment and review preferences) | Thematic analysis
Descriptive analysis |

- Mostly used sampling techniques: purposive sampling (23), convenience sampling (10), snowball sampling (2), theoretical sampling (2)
- Studies did not specify their sampling (9)
- Mostly used analysis methods thematic analysis (11)
### Appendix 7: No OR % of female participants among the selected studies

<table>
<thead>
<tr>
<th>S.No</th>
<th>Author</th>
<th>Total Sample</th>
<th>No/ % Female Participants</th>
</tr>
</thead>
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<tr>
<td>1.</td>
<td>Alzayer et al., 2018</td>
<td>25</td>
<td>100%</td>
</tr>
<tr>
<td>2.</td>
<td>Cheung et al., 2018</td>
<td>18</td>
<td>83%</td>
</tr>
<tr>
<td>3.</td>
<td>O’Conor et al., 2017</td>
<td>31</td>
<td>87%</td>
</tr>
<tr>
<td>4.</td>
<td>Roddis et al., 2016</td>
<td>6</td>
<td>50%</td>
</tr>
<tr>
<td>5.</td>
<td>Mowrer et al., 2015</td>
<td>200</td>
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</tr>
<tr>
<td>6.</td>
<td>Peñaez et al, 2015</td>
<td>24 (16 adult patients)</td>
<td>59% of the total sample</td>
</tr>
<tr>
<td>7.</td>
<td>Peñaez et al., 2014</td>
<td>38 (13 asthma patients)</td>
<td>69%</td>
</tr>
<tr>
<td>8.</td>
<td>Al-kalemji et al., 2014</td>
<td>10</td>
<td>60%</td>
</tr>
<tr>
<td>9.</td>
<td>Pai et al., 2014</td>
<td>76</td>
<td>68%</td>
</tr>
<tr>
<td>10.</td>
<td>Melton et al., 2014</td>
<td>4</td>
<td>100%</td>
</tr>
<tr>
<td>11.</td>
<td>George et al., 2014</td>
<td>35</td>
<td>71%</td>
</tr>
<tr>
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<td>Denford et al., 2013</td>
<td>21</td>
<td>67%</td>
</tr>
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<td>Lawson et al, 2013</td>
<td>26</td>
<td>69%</td>
</tr>
<tr>
<td>14.</td>
<td>McClelland et al., 2013</td>
<td>23 (6 asthma patients)</td>
<td>Not specified</td>
</tr>
<tr>
<td>15.</td>
<td>Oncel et al., 2012</td>
<td>23</td>
<td>69%</td>
</tr>
<tr>
<td>16.</td>
<td>Andrews et al., 2012</td>
<td>22</td>
<td>54.54%</td>
</tr>
<tr>
<td>17.</td>
<td>Poureslami et al., 2011</td>
<td>29 (16 asthma patients)</td>
<td>55% of the total sample</td>
</tr>
<tr>
<td>18.</td>
<td>Williams et al., 2011</td>
<td>15</td>
<td>80%</td>
</tr>
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<td>19.</td>
<td>Ross et al., 2010</td>
<td>8</td>
<td>75%</td>
</tr>
<tr>
<td>20.</td>
<td>Cvetkovski et al., 2009</td>
<td>28 (10 asthma patients)</td>
<td>Not specified</td>
</tr>
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<td>58.33%</td>
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<td>88%</td>
</tr>
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<td>23.</td>
<td>Choi et al., 2008</td>
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<td>87%</td>
</tr>
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<td>Jones et al., 2008</td>
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<td>62%</td>
</tr>
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<td>Trochtenberg and Belue, 2007</td>
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<td>50 (22 adult patients)</td>
<td>54% of the total sample</td>
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</tr>
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<td>Quanti- 517</td>
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- **Mixed methods studies**
Appendix 8: Matrix showing the distribution of the themes among the studies reviewed

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<th>Strategies in living with day to day asthma</th>
<th>Experience of patients with asthma medical treatment and factors influencing their practice</th>
<th>Experience of asthma services</th>
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<td>Jones et al., 2008</td>
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<tr>
<td>Donald et al, 2005</td>
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<td>Steven et al, 2002</td>
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## Appendix 9: Assessing studies using Hawker’s Appraisal Tool

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### Appendix 10: Description of the study settings

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<td>Asthma clinic 2 days Day care unit 2 days</td>
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<td>Internal medicine doctors</td>
<td>Respiratory specialists or senior house officers</td>
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<td><strong>Type of patients received in this clinic</strong></td>
<td>All patients with asthma regardless of their age or gender. Any patient below the age of 4 has to be diagnosed initially by a paediatric doctor and then referred to the asthma clinic for follow-up. Patients with severe asthma exacerbations were referred to hospital.</td>
<td>Adult patients with asthma. Those who are below age 13 are diagnosed and seen by paediatric doctors. Severe cases of asthma are either referred to the nearest secondary or tertiary hospitals in the same area.</td>
<td>Adult patients with asthma of (various level of asthma)</td>
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<td>Asthma management Guidelines follows in the institution</td>
<td>The three health institutions follow the same asthma management guideline which is aligned with the Global Initiative for Asthma (GINA) guidelines. The doctors in all three setting are following the principle of stepwise approach recommended by the MOH guidelines for the management of asthma (Oman Respiratory Society and Oman FAMCO Society, 2009). Stepwise approach is given in appendix</td>
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<td>Asthma management</td>
<td>In both polyclinics, chronic persistent severe asthma, not responding to four controller medications, is referred to a specialist for further management. These clinics might also receive patients with severe acute exacerbations. In this case, the GPs start the initial management to stabilise the case and then refer them hospital for admission. GPs in this polyclinic manage up to step 4 (Oman Respiratory Society and Oman FAMCO Society, 2009).</td>
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<td>Patient on step I to IV are seen in the clinic. Patients with severe asthma; who are not controlled are offered step V treatment. These are receiving either low dose long term oral steroids or the anti-IgE treatment Omalizumab. Patients on step five of treatments were seen in the day care unit, where they come to see their doctors to receive their treatment (Oman Respiratory Society and Oman FAMCO Society, 2009).</td>
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Appendix 11: Asthma stepwise approach (Global Initiative for Asthma, 2016)
Appendix 12: Interview guide

The Interview Guide

Adult Omani Women Experience Living with Asthma Disease: An Exploratory Study

Introduction

- The interview place is arranged
- The interviewer will introduce herself
- Hi How are you, I would like to thank you for taking the time to talk to you
- The interviewer will make sure that the interviewee is comfortable and ready to start the interviewee
- The researcher will check the encrypted voice recorder (with participant’s permission).
- The interviewee will be informed that the interview approximate duration will be from one to one and half hour, unless the interviewee agreed to go further.
- The interviewee will be assured that she has the right to stop the interview at any time she likes without the need to mention any reason. The data confidentiality and the anonymity of the interviewee will be assured also.
- The interviewee will be assured that the information generalized through the interview will be used for the sake of this research only and will not be used in further research.
- The participant will be assured to clarify any question that is not clear to them.
- **Initial stage**
  - **Main Question: Would you describe your experience with asthma?**
  - Tell me how you came to be diagnosed with asthma? How the things did go with you since then?
  - When did you notice the symptoms of asthma for the first time?
  - What was it like? If you could recall, what were you doing that time?
  - Could you describe the triggers that led you to have the symptoms of asthma? Do you think all of these triggers lead to your asthma attack? Could you think of other triggers?
  - What happened next?

- **Intermediate stage:**
  - **Main Question: What do you know about asthma?**
  - Could you tell me about your feeling when you know that you have asthma?
  - How do you view yourself when you have asthma attack?
  - Did asthma change anything in your life? What is that? How do you feel about these changes?
  - Would you describe your day when you experience asthma attack?
  - Tell me how you manage your disease? What do you do? What helps you to do so?
  - What are you doing to improve your condition?
  - How did you learn to deal with asthma?
  - Who was the most helpful source for you in dealing with your asthma? How did he/she/that help you? Are you happy about the help you get?
  - Did you get help from other sources? Would you describe them? What help they provide and how? Was the help they provide helpful? Are you happy about the help you get?
  - What problems/issues did you face while trying to manage your disease?
  - Tell me what you think of your role in managing your asthma disease?
  - What do you think about self-management in relation your asthma? How do you see this fit in your condition?
  - What is worrying you about your asthma?
  - After this period of time how do you view yourself as a person diagnosed with asthma?

- **Ending Stage:**
  - **Could you tell me how your perception of disease changed since the time of your diagnosis?**
  - What do you think the most important way to live with asthma disease? How did you know it?
  - What strength you developed from you experience with asthma disease?
  - Could I ask you about the most important lesson you learned from your experience with asthma disease?
### Closure
- As you go back, do you remember any other events you remember?
- Having this experience what advice you give to someone who has asthma recently?
- **By the end of the interview, the researcher will thank the participant for taking part in this study** (I would like to extend my great thanks of your participation, Thank you).

### After the interview
- Soon as the time permit the researcher will sit for note reflection regarding the interview.

**Probes and prompts used throughout the interview**
- Would you tell me what meant by saying…
- Would you elaborate more on…..
- After this…..what happen…
- Could you tell me some of these…. 
- Can you tell me a little bit more on…
- What do you mean by….
- So you are saying…
Appendix 13: Participants’ demographic data

1. Participant’s Code _______________________________________________________

2. Participant age
   - 18-25
   - 26-35
   - 36-45
   - 46-55
   - 56-64

3. Marital status
   - Married
   - never married
   - Divorce
   - Widow

4. Educational background
   - Preparatory level
   - Elementary level
   - Secondary level
   - College level
   - Other

5. Occupation _____________________________________________________________

6. Ethnicity ______________________________________________________________

7. Age diagnosed with asthma______________________________________________
8. Housing status:
   - Apartment (renter)
   - House (owner)

9. Family type:
   - Extended family
   - Nuclear family

10. Asthma severity level (This will be collected from the participant’s computer record)
    - Mild
    - Moderate
    - Severe
Appendix 14: Back translation

<table>
<thead>
<tr>
<th>English translated script</th>
<th>Back translation</th>
<th>Women’s verbatim</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asthma affects my social life. I have a duty and duty towards my family, my relatives and my friends. I cannot just apologize for not attending their social events. Being together and sharing the moment of happiness and sadness is important in my family. (Munira, P)</td>
<td>‘Asthma affected my social life. I have duty and obligation to my family, relatives and friends. I can’t just apologise for not attending their social events. Being together and sharing the happiness and sadness moment is important in my family.’ (Munira, P)</td>
<td>يؤثر الربو على حياتي الاجتماعية. لدي واجب وواجب تجاه عائلتي وأقارني وأصدقائي. لا يمكنني فقط الاعتراف بوجود حضور أحداثهم الاجتماعية. إن التواجد معًا ومشاركة لحظة السعادة والحزن أمر مهم في عائلتي (Munira, P)</td>
</tr>
</tbody>
</table>
### Appendix 15: Examples of line-by-line coding

<table>
<thead>
<tr>
<th>A portion of the transcript with <em>Moza, T</em></th>
<th>Initial codes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Previously, before getting asthma even, I was getting afraid of asthma.</td>
<td>Having a fear of asthma</td>
</tr>
<tr>
<td>I had a colleague who had asthma and used to be admitted several times to intensive care unit. He was getting very sick. Many times he was on a ventilator.</td>
<td>Knowing somebody with severe asthma</td>
</tr>
<tr>
<td>When I got diagnosed with asthma, I use to compare myself to that colleague.</td>
<td>Comparing her asthma with the colleague condition</td>
</tr>
<tr>
<td>We had the same job. I have a brother with asthma-like him, and both of us diagnosed with asthma.</td>
<td>Sharing similar characters with the colleague</td>
</tr>
<tr>
<td>I was afraid that my asthma condition would be like him. This was one of the reasons that I did not want to believe that I have asthma at the beginning.</td>
<td>Not willing to believe having asthma</td>
</tr>
</tbody>
</table>
### Appendix 16: Examples of focused codes

<table>
<thead>
<tr>
<th>Focus Area</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Accepting Asthma</strong></td>
<td>Having faith that illness is from Allah, having parents/relatives/ friends with chronic illness (positive experience), knowing somebody with asthma (positive experience), seeing the doctor as the expert, knowing asthma, having no information about asthma, the pre-diagnosis experience (positive experience), time of diagnosis, the health care team support</td>
</tr>
<tr>
<td><strong>Don’t want to believe of asthma</strong></td>
<td>Having parents /relatives/ friends with chronic illness (negative experience), knowing somebody with asthma (negative experience), knowing asthma, having no information about asthma, time of diagnosis, fear of being known as women with asthma</td>
</tr>
<tr>
<td><strong>Reasons for attending the governmental health care services</strong></td>
<td>Having short-term illness, having long term illness, getting no benefits from the treatment of the private health services, getting support by the healthcare professional, being encouraged by the family members, fear of disclose asthma, living near the health care services, being seen by a specialised doctor,</td>
</tr>
<tr>
<td><strong>Reasons for attending the private health care services</strong></td>
<td>Having short-term illness, having a non-dangerous illness, having a second opinion, the pre-diagnosis process, getting no benefits from the treatment of the governmental health services, being encouraged by the family members, living near the health care services, being seen by a female doctor, being seen by the same doctor,</td>
</tr>
<tr>
<td><strong>Family influence</strong></td>
<td>Husband support, Husband pressure, Grandmother pressure, mother, family concerns, family support, family pressure</td>
</tr>
<tr>
<td><strong>Emotional distress about asthma</strong></td>
<td>Feelings of sadness, upset, loss, loneliness, depression,</td>
</tr>
</tbody>
</table>

463
<table>
<thead>
<tr>
<th>Lack of support</th>
<th>Doing the household activities by herself, don’t have a housemaid, living away from the family, husband is working in a distant place</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reasons of not using the inhaler</td>
<td>Chemicals, harm the brain and bones, affect pregnancy, uncertainty, fear of stigma, illness perception, family influence</td>
</tr>
</tbody>
</table>
Appendix 17: Example of the development from initial codes to emergent category

<table>
<thead>
<tr>
<th>A portion of the transcript with <em>Moza, T</em></th>
<th>Initial codes</th>
<th>Focused code</th>
<th>Subcategory</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Previously, before getting asthma even, I was getting afraid of asthma. I had a colleague who had asthma and used to be admitted several times to intensive care unit. He was getting very sick. Many times he was on a ventilator. When I got diagnosed with asthma, I used to compare myself to that colleague. We had the same job. I have a brother with asthma-like him, and both of us diagnosed with asthma. I was afraid that my asthma condition would be like him. This was one of the reasons that I did not want to believe that I have asthma at the beginning.</td>
<td>Having a fear of an asthma Knowing somebody with severe asthma Comparing her asthma with the colleague condition Sharing similar characters with the colleague Not willing to believe having asthma</td>
<td>Accepting asthma but did not want to believe</td>
<td>Reacting to diagnosis</td>
<td>Making sense of illness</td>
</tr>
</tbody>
</table>
Appendix 18: Emerged categories

Category one: Making sense of illness
- Reacting to diagnosis
  - Accepting
  - Accepting but do not want to believe
  - Denying
- Suffering the threatening moment: asthma attack
- Debating the chronicity and danger of asthma
- Ambiguities in asthma causes
- Encountering asthma provocations in women’s daily life

Category two: How asthma disrupts women’s lives
- Experienced physical effects
- Disrupted domestic roles
  - Disrupted marital relationship and housewifery role
  - Disrupted motherhood role
- Disrupted family life
- Disrupted social life
- Disrupted educational path
- Disrupted career path
- Disrupted emotions
- Disrupted the perception of normality

Category three: Women’s decisions in managing asthma
- Women incorporating asthma into their daily lives
- Women’s asthma management choices
  - Using medical treatment regularly
  - Using medical treatment when needed
  - Using traditional treatment

Category four: Women’s choice of healthcare services
- Women’s seeking the medical help
  - Reasons for first seeking medical help
  - Reasons for delaying first seeking medical help
  - Reasons for regular attendance at follow-up clinics
  - Reasons for irregular attendance at follow-up clinics
- Women’s choice of help
  - Staying with government services
  - Leaving the governmental services
  - Coming back to government services
  - Using the emergency services
- Women’s satisfaction with the government services
- Women's perceived health education needs
Appendix 19: Ethical approval from The University of Manchester

Ref: ethics:15426

Mrs Badriya Alriyami and Professor Ann Caress
School of Nursing, Midwifery and Social Work
Room 6.341 JMC
University Place
University of Manchester
M13 9PL

20th October 2015

Dear Professor Caress and Mrs Alriyami

Study title: “The experience of Adult Omani Women Living with Asthma: An Exploratory Study”

Our Ref 15426

I write to thank Professor Ann Caress for coming to meet the Committee on the 5th October 2015. I am pleased to confirm a favourable ethical opinion for the above research on the basis described in the application form and supporting documentation as submitted and your revised application from Professor Caress in her email of the 19th October 2015 now approved by the Chair on behalf of the Committee.

This approval is effective for a period of five years. If the project continues beyond that period an application for amendment must be submitted for review. Likewise, any proposed changes to the way the research is conducted must be approved via the amendment process (see below). Failure to do so could invalidate the insurance and constitute research misconduct.

You are reminded that, in accordance with University policy, any data carrying personal identifiers must be encrypted when not held on a secure university computer or kept securely as a hard copy in a location which is accessible only to those involved with the research.

Reporting Requirements:

You are required to report to us the following:

1. Amendments
2. Breaches and adverse events
3. Notification of Progress/End of the Study

Feedback

It is our aim to provide a timely and efficient service that ensures transparent, professional and proportionate ethical review of research with consistent outcomes. In order to assist us with our aim, we would be grateful if you would give your view of the service that you have received from us by completing a feedback sheet https://survey.manchester.ac.uk/pssweb/index.php/77975b/lang-en

We hope the research goes well.
Yours sincerely,

Patricia Gorham
Secretary to University Research Ethics Committee 5
cc Karina Lovell; Dr Tim Stibbs
Appendix 20: Communication from the tertiary hospital

Ref. No. ADM/HDG/453/2015

15th November, 2015

Ms. Badriya Al-Riyami,
PhD Student,
University of Manchester,
U.K.

Dear Ms. Badriya,

Re: “The Experience of Adult Omani Women Living with Asthma: An Exploratory Study”

I refer to your letter dated 3rd November, 2015 on the above subject where you stated that you will be conducting a qualitative exploratory study on “The experience of Adult Omani Women living with Asthma” and attending Asthma Clinic.

As per Hospital Board directive, you should identify a Co-PI (Co-Principal Investigator) within I who would be the focal point of initiating the various approvals including ethical approval to conduct research at.

Thank you.

Yours sincerely,

Dr. Abdullah Al-Asmi
Hospital Director General

Cc: Prof. Omar Al-Rawas, Dean, College of Medicine & Health Sciences

/sig
Appendix 21: Ethical approval from the Sultanate of Oman Ministry of Health

Sultanate of Oman
Ministry of Health
Directorate General of Planning
and Studies
MH/DGP/R&S/PROPOSAL_APPROVED/44/2015
Ref. : .................................
Date : 15.11.2015

Badriya Alriyami
Principal Investigator

Study Title: "The Experience of Adult Omani Women Living with Asthma: An Exploratory Study".

After compliments

We are pleased to inform you that your research proposal "The Experience of Adult Omani Women Living with Asthma: An Exploratory Study" has been approved by Research and Ethical Review & Approve Committee, Ministry of Health.

Regards,

Dr. Ahmed Mohamed Al Qasmi
Director General of Planning and Studies
Chairman, Research and Ethical Review and Approve Committee
Ministry of Health, Sultanate of Oman.

Cc
Day file
Appendix 22: Participant information sheet (English)

Participant Information Sheet

The Experience of Adult Omani Women Living with Asthma: An Exploratory Study
(Version 3; Date 13/10/2015)

You are being invited to take part in a research study The Experience of Adult Omani Women Living with Asthma (as part of a student PhD project) Before you decide, it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully and discuss it with others if you wish. Please ask if there is anything that is not clear or if you would like more information. Take time to decide whether or not you wish to take part. Thank you for taking the time to read this.

Who will conduct the research?

Researcher: Badriya Al Riyami

University of Manchester

School of Nursing, Midwifery and Social Works

What is the purpose of the research?

The study aims to understand the experience of living with asthma from the perspective of adult Omani women who have this condition

Why have I been chosen?

You have been selected because you are an adult Omani woman who has been diagnosed with asthma
What would I be asked to do if I took part?

If you agree to take part in the study, you will be invited to take part in an interview. You will be given the option to choose the convenient place and time for you to do the interview. The interview might take 60 to 90 minutes. After your permission, the researcher will audio record the interview. The researcher will ask you questions about your experience with asthma and its impact on your life. Exploring your experience of asthma may provoke psychological distress. You will have the right to stop the interview at any time without the need to give any reason. The researcher will be observing you for any signs of discomfort, anxiety or distress. The researcher might halt the interview and give you time to recover from the distress. You will be given the option either to recommence or terminate the interview. For further emotional distress, the researcher will discuss with you the opportunity to make a contact with your health care professional at your local primary unit and if you wish, you might be referred to a professional counsellor/psychologist.

You might experience minimal physical discomfort from sitting for an hour or more for interviewing. However, you have the right to stop the interview at any time or go for a break when needed.

What happens to the data collected?

The data will be collected by the researcher (Badriya Al Riyami). With your permission, the interview will be audio recorded. The digital audio records will be stored on an encrypted laptop. The interview will be translated and copied out word for word (transcribed) by the same researcher who did the interview with you. The word for word copy (transcript) will not include your name or anything that might disclose your identity. You will be identified by codes in your transcript. The electronic copy of your data will be saved on an encrypted device or password protected computer. The transcripts will be analysed, to identify the main issues for you and for the other people interviewed for the study. The researcher will share the anonymised transcript with her academic supervisors. The information that you provide during the interview will be used for this research project only. With your permission, some of your statements will be quoted directly in publications and in my PhD thesis, but in a manner which ensures that neither you nor anyone about whom you speak in the interview can be identified.
How is confidentiality maintained?

The researcher and her supervisors will be the only individuals who will know the identity of the participants and the audio recordings that identify their identity. Your permission for audio recording the interview will be sought; if you agree to this, the researcher will only make written notes about what you say during the interview. The word for word copy (transcript) will not include your name or anything that might disclose your identity. You will be identified by code in your transcript. The soft copy of your data will be saved on an encrypted device or password protected computer so that no other person than the researcher can access to them or even if it is lost. Your interview will be translated and transcribed by the same researcher who undertook the interview with you. The researcher will share anonymised copies of the transcript of your interview with her supervisors. With your permission, some of your statements will be quoted anonymously in publications and reports related to the research; these will be carefully selected to ensure that neither you nor anyone about whom you speak during the interview can be identified.

If you disclose any information about your asthma that needs to be shared with your GP, researcher will discuss the issue with you first and then, if you agree, she will inform your GP.

What happens if I want to take part or if I change my mind?

It is up to you to decide whether or not to take part. If you decide not to take part in this interview, nothing will happen and your treatment will not be affected. If you decide to take part, you are still free to withdraw at any time without giving a reason and without detriment to yourself.

Will I be paid for participating in the research?

No direct payment will be made to study participants. The researcher will pay your travel expenses. This expense is estimated to be from one to two Omani Rials (which is around 3-4 UK pounds) per participant. We hope that the research study will provide valuable information regarding the experiences of adult Omani women living with asthma and contribute to improving the support and services that are provided to them.
What is the duration of the research?

Data collection for the whole study will take around six months. You will have only been interviewed a one occasion during this time. The interview will take 60 to 90 minutes. The researcher will start data analysis soon after the interview. It is possible that the researcher might need to re-contact you when analysing your interview to clarify something you said. Such contact would be by phone or email and will only happen if you give permission. You will also be sent a summary of your interview by post or mailed to comment on it. At the end of the study, you will receive summary of the study findings.

Where will the research be conducted?

The researcher will be conducted in Oman, in either the primary health care centre you usually attend or the tertiary Hospital. If you are interested in participating, the researcher will discuss with you a convenient time and place for the interview.

Will the outcomes of the research be published?

YES, the findings of the research will be published in national and international journals, as well as in a PhD thesis, a copy of which will be publicly available through the University of Manchester Library. It will also be presented at conferences and seminars for healthcare professionals and researchers. Anonymised quotations from your transcript might be used in publications and presentations, with your permission.

Who has reviewed the research project?

The study has been reviewed and approved by the University of Manchester Research Ethics Committee and by the Omani Ministry of Health Ethics Committee and Sultan Qaboos University Hospital Ethics Committee.

What if something goes wrong?

If you have any questions or concerns about the research, please contact me at Badriya.alriyami@postgrad.manchester.ac.uk. Alternatively, you can contact one of the research supervisors, by email - Dr Hannah Cooke (Hannah.cooke@manchester.ac.uk) Prof Ann Caress (Ann.Caress@manchester.ac.uk). Both of them should be contacted in English.
What if I want to complain?

If you wish to make a formal complaint about the conduct of the research you can contact the University of Manchester’s Research Governance and Integrity Manager, Research Office, Christie Building, University of Manchester, Oxford Road, Manchester, M13 9PL, England by emailing (in English): research.complaints@manchester.ac.uk or by telephoning 0044 161 275 2674 or 0044 161 275 8093

How can I contact you?

If you have any questions about the research or what your participation would involve, please contact me at Badriya.alriyami@postgrad.manchester.ac.uk.

This Project Has Been Approved by the University of Manchester’s Research Ethics Committee [Ref: 15426].

THANK YOU FOR TAKING THE TIME TO READ THIS INFORMATION SHEET AND CONSIDER PARTICIPATING IN THIS STUDY
تحت تجربة النساء العمانيات البالغات المصابات بمرض الربو: دراسة استطلاعية

الإصدار 3 التاريخ 13/10/2015

أنت مدعوة للمشاركة في دراسة بحثية بعنوان: "تجربة النساء العمانيات البالغات المصابات بمرض الربو" كجزء من مشروع دكتوراه.

قبل أن تتخذي قرارك بالمشاركة من عدمها، من المهم أن تعرف أن هذا البحث وفقاً للمعهد والرغبة من مشاركتك.

يرجى منك قراءة المعلومات التالية بعناية، وتمكينك مناقشتها مع الآخرين إن رغبت بذلك، كما يمكنك طرح أي أسئلة للاستيضاح أو طلب المزيد من المعلومات عن البحث.

امنحي نفسك وقتك كافياً لتفكيرك في مشاركتك.
شكرا لاقتضاعك جزءاً من وقتك لقراءة هذه النشرة.

من سيجري البحث؟
الباحثة: بدرية الريامي
جامعة مانشستر
كلية التمريض والقبالة والعمل الاجتماعي

ما الهدف من هذا البحث؟
تهدف هذه الدراسة إلى فهم تجربة العيش مع مرض الربو من وجهة نظر النساء العمانيات البالغات المصابات بهذا المرض.

لم تم اختياري؟
نحن مهتمون بمعرفة وجهات نظر النساء العمانيات المصابات بمرض الربو فيما يتعلق بتجربتهن مع المرض.

ماذا سيطلب مني إن شاركت؟
سنتبلي لك الدراسة من خلال صحفية معلومات سنتم التقاطها معك، وسنتمحينا وقتاً كافياً للنظر في مشاركتك في الدراسة. سيكون لديك الحق في الانسحاب من الدراسة في أي وقت دون الحاجة للذكر أي سبب.
إن كنت ترغب في المشاركة في هذه الدراسة، ففي كل مرة تتم قراءة صحفية المعلومات بعناية والتوقع على استمارة الموافقة الموقعة. كما سيطلب منك تزويدين برقم هاتفك وتاريخ الاتصال.
إذا قمت على استمارة الموافقة، ستكون مدعوة لإجراء مقابلة، وسنكون لك الحرية في اختيار المكان والوقت المناسبين لإجراء إجراة.
إذا توصلت الباحثة إلى معلومات تستدعي معرفة طبيبك، فستخبرك بالأمر أولاً وإن وافقت ستخبر بها طبيبك.

ال açısından، 23

صحيفة معلومات للمشاركات

Appendix 23: Participant information sheet (Arabic)
ماذا سيحدث للبيانات التي سيتم جمعها؟

أنا الباحثة "بدرية الريامي" من ستقوم بجمع البيانات، وبعد موافقتك سأقوم بتسجيل المقابلة، وسيتم الاحتفاظ بشريط التسجيل في خزانة أمانة لدي. وسيتم ترجمة وتدوين المقابلة من قبل نفس الباحثة التي أجرت معاها مقابلة، وسيتم ترجمة برموز خاصة في سجلك. كما سيتم الاحتفاظ بنسخة إلكترونية للبيانات في جهاز محمي بكلمة مرور.

سنقوم بالمشاركة بمشاركة البيانات التي تم جمعها مع مشرفينا الأكاديميين دون الحاجة لكشف هويتك، وعند الانتهاء من جمع البيانات ستبدأ الباحثة بتحليلها، وسيتم استخدامها لغرض مشروع البحث هذا فقط. بعد أخذ موافقتكم، سيتم اقتباس بعض من أقوالكم دون ذكر اسمك بغير الرغبة في المشاركة.

كيف سيتم الحفاظ على السرية؟

ستكون الباحثة هي الشخص الوحيد الذي يعرف هويات المشاركات وله الحق في إطالة سجلاتهن وأشرطة التسجيل الخاصة بهن للتمكين من التحقق من هويتهن، وسيطلب الباحث من المشاركات تسجيل المقابلات وستحفظ جميع سجلات وأشرطة التسجيل المقابلات التي تحمل هوية المشاركة بشكل آمن. سيتم ترجمة وتدوين المقابلة من قبل نفس الباحثة التي أجرت معاها المقابلة. وتستعمل النسخة المطبوعة من المقابلة التي تحمل اسمك في خزانة أمانة وسيتم ترجمة برموز خاصة في سجلك. أما النسخة الإلكترونية من بياناتك فيتم إخفاءها في جهاز مصغر أو حاسب محمي بكلمة مرور ما يعني عدم تمكن أي شخص من الاستغلال عليها سواء الباحثة حتى في حالة فقدانها.

سنقوم بالمشاركة بمشاركة البيانات التي تم جمعها مع مشرفينا الأكاديميين دون الحاجة لكشف هويتك، وعند الانتهاء من جمع البيانات ستبدأ الباحثة بتحليلها، وسيتم استخدامها لغرض مشروع البحث هذا فقط. بعد أخذ موافقتكم، سيتم اقتباس بعض من أقوالكم دون ذكر اسمك بغير الرغبة في المشاركة.

وإذا توصلت الباحثة إلى معلومات تستدعي معرفة طبيبك، فستخبرك بالأمر أولا وإن وافقت ستخبر بها طبيبك.

ما الذي سيحدث عند عدم المشاركة أو غير الرغبة في المشاركة؟

يعد قرار المشاركة من عدمها إيجابيًا وإن قررت عدم المشاركة فلن تتأثر خطة العلاج. أما إذا رغبت في المشاركة فسيكون لك خيار الانسحاب في أي وقت دون الحاجة لذكر أي سبب، ودون إلحاق الضرر بنفسك. ستتحقيق الباحثة من نفقات التنقل للمشاركة، وستتكفل الباحثة بدفعها.

هل سيكون هناك مكافأة مباشرة للمشاركات، ولكن نأمل أن يوجد هذا البحث معلومات عن النساء العمانيات البالغات المصابات بالربو ليسهم ذلك في فهم تجربتهن ودعمهن وتطوير الخدمات المقدمة لهن؟

ما هي مدة البحث؟

سيستغرق جمع البيانات للدراسة بأكملها قرابة الستة أشهر، وسيجري ذلك مقابلة واحدة خلال هذه الفترة تتراوح مدتها بين 60 إلى 90 دقيقة. ستبدأ الباحثة بتحليل البيانات فور انتهاء المقابلة، ومن المحتمل أن تحتاج الباحثة لإعادة التواصل معك عند تحليل البيانات لاستيضاح شيء ذكرته في المقابلة. سيكون هذا التواصل عبر الهاتف أو البريد الإلكتروني ولا يتم إلا بعد أخذ موافقتك. كما ستتم إرسال ملاحظاتك عبر البريد العادي أو البريد الإلكتروني إلى الباحثة.

هل سيكون هناك نتائج البحث؟

ستتم إجراء البحث في غياب جميع المشاركات. في حال رغبتك في المشاركة في البحث، ستتناقشك الباحثة حول الوقت والمكان المليء لإجراء المقابلة.

هل سيتم نشر نتائج البحث؟

لا، لن تكون هناك مكافآت مباشرة للمشاركات، ولكن نأمل أن يوفر هذا البحث معلومات عن النساء العمانيات البالغات المصابات بالربو ليسهم ذلك في فهم تجربتهن ودعمهن وتطوير الخدمات المقدمة لهن.
نعم، سيتم نشر نتائج البحث في مجلات محلية ودولية، كما قد نستشهد بعض اقتباساتك دون ذكر اسمك وذلك بغرض النشر بعد أخذ موافقتك.

من قام بمراجعة مشروع البحث؟

لقد تم مراجعة هذه الدراسة والموافقة عليها من قبل لجنة أخلاقيات البحث بجامعة مانشستر، ولجنة الأخلاقيات بوزارة الصحة، ولجنة الأخلاقيات بمستشفى جامعة السلطان قابوس.

ماذا لو حدث خطا أو مشكلة؟

إذا كانت لديك أي أسئلة أو مخاوف بشأن البحث، يمكنك التواصل مع عبر بريدронي بحثي الإلكتروني Badriya.alriyami@postgrad.manchester.ac.uk، وإن أردت الاتصال مع إحدى مشرفتي البحث، يمكنك مراسلتي في البريد الإلكتروني Hannah.cooke@manchester.ac.uk، كما يمكنك مراسلة الدكتورة حنّا كوك عبر البريد الإلكتروني Hannah.cooke@manchester.ac.uk. يمكن التواصل مع كلتا المشرفتين باللغة الإنجليزية.

عند التواصل مع إدارة البحث ومدير النزاهة بجامعة مانشستر

Research Governance and Integrity Manager, Research Office, Christie Building, University of Manchester, Oxford Road, Manchester, M13 9PL.

الإلكترونياً research.complaints@manchester.ac.uk

إذا كنت ترغب في تقديم شكوى رسمية على طريقة إجراء هذا البحث، يمكنك التواصل مع إدارة البحث ومدير النزاهة بجامعة مانشستر

الإلكترونياً research.complaints@manchester.ac.uk

أو الاتصال على الرقم 44+44161275 8093.

كيف يمكنني التواصل معك؟

إذا كانت لديك أي أسئلة أو مخاوف بشأن البحث، يمكنك التواصل مع عبر بريدوني بحثي الإلكتروني Badriya.alriyami@postgrad.manchester.ac.uk، وإن أردت الاتصال مع إحدى مشرفتي البحث، يمكنك مراسلتي في البريد الإلكتروني Hannah.cooke@manchester.ac.uk، كما يمكنك مراسلتي في البريد الإلكتروني Ann.Caress@manchester.ac.uk. يمكن التواصل مع كلتا المشرفتين باللغة الإنجليزية.

Ref: 15426

شكرًا على استقتك وتفتحي قراءة صحيفة المعلومات هذه والنظر في مشاركتك في الدراسة.
CONSENT FORM (Version 3 Date 13/10/2015)

The Experience of Adult Omani Women Living with Asthma: An Exploratory Study

If you are interested and happy to participate in the study, please carefully read and complete the consent form below. This form is to ensure that you understand the purpose of the study and that you are aware of your rights as a participant.

Please initial box

1. I confirm that I have received, read and understand the information sheet explaining the study (Version No 3; date 13/10/2015).

2. I received an adequate answer to my queries/questions about the study.

3. I have received adequate time to consider participation in the study.

4. I understand my right to withdraw from the study at any time without the need to give any reason and without this affecting my treatment.

5. I understand that my participation will require taking part in one interview, on one occasion, which will last for up to one and a half hours.

6. A. I understand that the interview will be audio recorded, with my permission and agree to this.
   OR
   B. If I prefer not to be audio-recorded, but give the researcher permission to make written notes during the interview.

7. I agree to be re-contacted by the researcher, by telephone, post or email, if more information is needed.

8. I understand that I have the right to refuse any further contact.

9. I understand that information I provide during the interview will be used for the purpose of this research, in anonymized form.

10. I understand and agree that my anonymity will be maintained by the researcher. The researcher will securely store the information in an encrypted and password protected device.

11. I understand that if I disclose information about my asthma that needs to be communicated to my GP, then the researcher will discuss the issue with me first and then, if I agree, she will inform my GP.

12. I understand that my identity will be known only by the principal researcher (Badriya al Riyami) and that the researcher will not share...
information which enables me to be identified with anyone else (including her academic supervisors) without my permission.

13. I agree that direct quotations of some parts of my interview can be used in publications, reports and presentations about the research, in a form which fully ensures that neither I nor anyone about whom I speak during the interview is identifiable.

14. I understand that the researcher is a PhD student and that she will need to work on the collected data and store them for the next 2-3 years.

15. I understand that the research data and this consent form, will be held and stored, under lock, for 5 years, as per the University of Manchester data management policy.

16. I understand that my information might be looked at by the regulatory authorities.

Herby I agree to take part in the above project

Name of participant __________________ Date ___________ Signature __________________

Name of researcher __________________ Date ___________ Signature __________________

This Project Has Been Approved by the University of Manchester's Research Ethics Committee (Ref: 15426)
Appendix 25: Consent form (Arabic)

ملحق

استمارة موافقة

تجربة النساء العمانيات البالغات المصابات بمرض الربو: دراسة استطلاعية

الإصدار 3 التاريخ 13/10/2015

إن كنت راغبة ومستعدة للمشاركة في هذه الدراسة، يرجى تعبئة استمارة الموافقة هذه والتوقيع عليها أدناه.

هذه الاستمارة لضمان فهمك لغرض الدراسة وإلمامك بالحقوق كمشاركة.

يرجى التوقيع بالحروف الأولى من الاسم أمام البنود التالية:

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<td>أفهم حتى في الأسئلة من الدراسة في أي وقت دون الحاجة لإعطاء أي سبب ودون أن يؤثر ذلك على علاقتي</td>
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<td>5</td>
<td>أفهم أن مشاركتي ستتطلب إجرائي لمقابلة قد تمتد لساعة ونصف</td>
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<td>أفهم أن المقابلة ستكون مسجلة صوتيا مع إذن مني و توافق على هذا</td>
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أوافق على المشاركة في هذا المشروع
لقد تم اعتماد هذا البحث من قبل لجنة أخلاقيات البحث بجامعة مانشستر (Ref: 15426)
Appendix 26: Distress policy

The Experience of Adult Omani Women Living with Asthma: An Exploratory Study

- This study concerns about an experience of adult women in living with a long-term illness like asthma. It is unlikely that a criminal activity will be disclosed through the interviews. However, exploring experiences of chronic illness may provoke psychological distress.
- Participants will be observed for any signs of discomfort, anxiety or distress
- The researcher will halt the interview and give the participant time to recover from the distress
- The researcher will give them the option either to recommence or terminate the interview
- For further emotional distress, the researcher will discuss with the participant the opportunity to make a contact with their health care professional at the local primary unit and if they wish they may refer them to a professional counsellor/psychologist
- Participants might experience minimal physical discomfort from sitting for an hour or more for interviewing. However, they will be informed that they have the right to stop the interview at any time or go for a break when needed.
Appendix 27: Examples of women’s different pathways to medical help

Story 1: staying with the medical help

‘I never skip any follow-up visits. I do not want to get an asthma attack. Various people in my neighbourhood perceived asthma inhalers negatively, and some of them did not want to see me taking the inhalers. I decide what is important for me because I am the one who suffers from an asthma attack, not them. It is easy for them to talk. My family is supporting me and encourage me to take the inhalers.’

(Sheikha, T)

Sheikha articulated the attitude of a small minority of women who regularly attended medical services since the time of diagnosis. She had severe asthma. She reported that her acceptance of the illness and her desire to reduce the burden of her illness on herself and the family persuaded her to initiate and follow-up with asthma clinic. Sheikha expressed her knowledge about the various rumours existed in her community regarding asthma treatment. She reported feeling stigmatised by using the inhalers by some of her neighbours. However, her fear of experiencing asthma crisis and the encouragement of her family persuaded her to decide to attend the follow-up visits and use the prescribed medical treatment.

Story 2: coming back to the medical help

Naeema described experiencing moderate asthma symptoms, which persuaded her to seek the medical help at first to identify the problem. At that time, she got diagnosed with asthma and given asthma treatment which was the inhalers (reliever and preventer). She also had a son with asthma. During the first year after her diagnosis, she refused to use asthma treatment for her and her son. She attributed her negative reaction to asthma treatment to the rumours that existed in her social network. Moreover, she was actively discouraged by her social network from using the treatment. During that year, Naeema and her son experienced frequent asthma crisis which forced them to attend the emergency services for help frequently. According to her, not using the treatment led to her son being admitted to intensive care unit for several days. She had to leave her children with her husband to stay with her son in the hospital. She also had small children, who needed her care. She reported that that situation was a stressful situation, which triggered a severe asthma attack and so she also got admitted to the hospital. This crisis for her was the changing point by which she decided for herself and her son to attend the follow-up visits regularly and use the treatment. As she used the treatment, she reported experiencing the effectiveness of the treatment in improving her asthma symptoms and reducing her absence.
from work. She also mentioned that she noticed an improvement in her ability to carry her activities of daily living and her roles and responsibilities as a mother and housewife. Since then, she reported attending her follow-up visits.

‘In the first year of diagnosis, I was rarely using the inhalers for my son and me. I heard many rumours about inhalers, and I got afraid of using them. During that year, we got very frequent attacks. One day, my son got a severe asthma attack and admitted to intensive care unit for six days. I felt guilty for not giving my son his treatment, which could kill him. I felt bad about leaving my responsibilities as mother and housewife to my husband because I had to be with my son. I thought if I am taking and giving my son the treatment, none of this happens. That situation was a stressful situation, which triggered my asthma attack that time, and so I was admitted to hospital. After coming out of that crisis, I took my decision to comply with treatment for my son and me. I realised that we were the one who suffered from asthma; it was easy for people who did not have asthma to talk. They probably knew nothing about asthma. After started taking the inhalers regularly I did not have to take any sick leave from my training course. My son’s school absence was also reduced. Moreover, my physical, and emotional status improved. The most important one is that I have to be admitted anymore for an asthma attack and leave my children.’ (Naeema, P)

Although Naeema did not have a problem in seeking medical help initially, the rumours that existed in her community about inhalers stopped her from attending follow-up visits. Experiencing asthma crisis and the burden of asthma on her domestic life persuaded her to go back to seek medical help. Experiencing the effectiveness of the treatment in reducing the crisis and in performing her duties as the main reasons encouraged her to attend the follow-up visits.

**Story 3: dropping in and out of the medical help**

The perception of asthma as a short-term illness hindered Nawal from initiating the medical help when first experiencing asthma symptoms. However, experiencing an asthma crisis persuaded her to start using the medical help. Viewing asthma as an intermittent illness, not experiencing frequent crises and the negative influence of the husband had all hindered her from attending all her follow-up visits.

‘In the beginning, I thought of asthma as the common cold that could go by taking home remedies. I did not realise that time that asthma is a chronic disease. When asthma started affecting my life, I was seeing asthma as something that could end my life at any time. I saw it as a very dangerous disease that affects my life negatively. So I decided to go the hospital. In the first year, I attended all my follow-up visits. However, after that, I was not experiencing asthma every day. I did not see the necessity to use the treatment, and so I skipped some of my follow-
up visits. My husband also discouraged me from using the inhaler or to attend the follow-up when I do not have asthma symptoms. ’ (Nawal, P)

The preceding discussion revealed that the women of this study made conscious choices in deciding different pathways of whether or not initiate and follow-up with the medical help. More important their judgement of which pathway to follow was consciously made by weighing up between the facilitators and the barriers present within their social context. They particularly considered those factors related to them as women, particularly about their roles as wives and mothers.

The subsequent sections described the women choices of services in managing their symptoms of asthma. More important the analysis focused on what influenced the women in making their decisions regarding their use of the available services and organisations in managing their asthma.