HEALTH PROFESSIONAL-PATIENT COMMUNICATION IN RELATION TO WEIGHT MANAGEMENT

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Doctor of Philosophy (PhD) in the Faculty of Biology, Medicine and Health

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Thesis Abstract
Anne Marie Dewhurst
University of Manchester
30th September 2016

Degree Title: Doctor of Philosophy (PhD)

Thesis title: Health Professional-patient communication in relation to weight management

Background: Global obesity levels have doubled since 1980 and are expected to rise. It is associated with key health risks such as heart disease, some cancers and osteoarthritis and hence has considerable economic consequences for health care resources. Key policy guidelines recommend that all health professionals (HPs) should discuss weight management with their patients making every contact count. However, we know HPs find discussions about weight challenging due to lack of time, training and skills. Knee Osteoarthritis (KO) and obesity are inextricably linked and together with a rise in obesity levels and growing numbers of older citizens rates of KO are set to escalate. As obesity is the key modifiable risk factor for KO, discussions about weight are paramount. This thesis explored this relationship further from the perspectives of patient and HPs, focusing on KO as an exemplar condition where there is scope for improved weight management.

Methods: Utilising qualitative methods, three studies were undertaken. Firstly, a systematic review and thematic synthesis was conducted of published literature of physicians’ views and experiences of discussing weight management within routine clinical consultations, not specific to KO. Secondly, HPs’ experiences of discussing weight in consultations with KO patients through semi-structured interviews were conducted with 26 HPs. Interviews were audio recorded and analysed using TA. A final study recruited 25 overweight/obese patients with KO and investigated their experiences of talking about weight with HPs.

Results: Overarching themes were identified across the studies. Firstly, HPs are pessimistic about patients’ desire to lose weight and their capacity to help them. Several factors lead physicians and HPs to be reticent to accept responsibility for discussions about weight. Within routine consultations and between HPs and KO patients, weight was viewed as a sensitive topic. Both HPs and patients recognized the difficult cycle of pain, reduced mobility and weight gain. Patients with KO desire patient-centred (PC) care but, despite HPs recognizing its value, they do not receive it. Both physicians and HPs lack communication skills in weight management.

Conclusions: The work undertaken in this thesis demonstrates that barriers preventing effective clinical interactions about weight identified in routine consultations still exist, even when two conditions such as KO and obesity are inextricably linked. Although HPs and patients hold similar understanding of these interrelationships and recognise the value of PC discussions, HPs struggle in effective behavior change talk. HPs expressed impatience with the efforts of their patients. To readdress this imbalance all consultations about weight should be PC. Both physicians and HPs were inadequately trained to discuss weight and patients’ views supported this. HPs working with overweight patients should be trained in evidence-based behaviour change techniques and PC communication techniques to increase their confidence to support patients in weight management. Finally, health psychologists have the skills to both deliver and guide discussions about weight.
Declaration

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Rationale for submitting the thesis in alternative format

It was decided to present this thesis in alternative format as the researcher wished to gain experience writing individual empirical papers for publication in peer reviewed journals. Two studies have been submitted (Patient Education and Counseling) and (Arthritis Care & Research). Both have received a revise and reconsider. The final paper is currently being prepared for submission in BMJ Open.

Author’s contribution

AD conducted all the research within this thesis writing each thesis chapter and individual journal article (study 1, 2 and 3). AD took primary responsibility for designing and setting up studies 1, 2 and 3, recruitment of health professionals and patients, data collection and analysis. In both the health professional and patient study AD was responsible for communicating with both primary and secondary care services and patients, initiating and gaining ethical approval and arranged and conducted all aspects of the data collection. Collaborating authors identified within the journal articles contributed by assisting with conceptualisation, secondary analysis and contributing to the revision of the final draft of manuscripts.
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First and foremost I would like to thank my supervisors Dr Sarah Peters and Dr Jo Hart for giving me this fantastic opportunity in life. Thank you for all your patience, kindness, support and guidance over the past four years and giving me the chance to study an area that I have found so interesting. Your nurturing style has been greatly appreciated and your encouraging manner warmly received. Thank you for believing in me. I definitely could not have done it without you both.

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“You never really understand a person until you consider things from his point of view…until you climb into his skin and walk around it”. Atticus Finch-To Kill a Mockingbird, Harper Lee.

Last but certainly not least I would like to thank my fiancé Sean. It’s been a very tough last few years but we have made it through together. You have been my rock. Thank you so much for the cups of tea, the hugs, the warm words of encouragement and telling me you are proud of me. You are so thoughtful, wise, sensitive, kind and gentle and have all the qualities I love and value in a human being. We are a wonderful team and I am proud to be your fiancé. We can finally move and get married!

Finally, I would like to dedicate this thesis to my wonderful mother Sheila Mary Dewhurst. I love you with all my heart. This quotation says it all.

“I love my mother as the trees love water and sunshine — she helps me grow, prosper, and reach great heights”. ~Terri Guillemets
Glossary

Articular Cartilage the smooth white tissue that covers the ends of bones where they come together to form joints.

Behaviour Change Techniques the difference methods used by practitioners to change behaviours.

Body Mass Index (BMI) a method used to calculate the healthy weight for a person based on their height and weight

Crepitus joint grinding or cracking in the joint

Degeneration breakdown of articular cartilage in the synovial joints

Health professional a professional (for e.g. Nurse, General Practitioner, Physiotherapist) who provides health care to members of the population.

Knee osteoarthritis degeneration of the knee, often accompanied by joint pain and stiffness.

Osteoarthritis a degenerative joint disease characterized by pain, cartilage loss and joint stiffness.

Overweight a term used to refer to someone with a Body Mass Index of between 25 and 30.

Obese a term used to refer to someone with a Body Mass Index of over 30.

Patient-centred care a type of care that encompasses key aspects such as compassion, empathy and shared decision making.

Subchondral bone A bone in the knee, which provides the mechanical support and nutrition supply to the articular cartilage. It is constantly changing due to the biochemical environment and pressure from excessive body weight and ageing.

Synovial Membrane A layer of connective tissue that lines the cavities of joints in the knee.
Abbreviations

AAOS American Academy of Orthopaedic Surgeons
ACR American College of Rheumatology
BCT Behaviour Change Technique
BMI Body Mass Index
EASO The European Association for the Study of Obesity.
EULAR European League Against Rheumatism
GP General Practitioner
HOA Hand Osteoarthritis
HPs Health Professionals
KO Knee Osteoarthritis
MI Motivational Interviewing
NHS National Health Service
NICE National Institute of Health and Care Excellence
OA Osteoarthritis
OARSI Osteoarthritis Research Society International
OT Occupational Therapist
PC Patient-Centred
PCC Patient-Centred Care
QoL Quality of Life
RCP Royal College of Physicians
USPSTF The United States Preventive Task Force
WHO World Health Organisation
WOMAC The Western Ontario and McMaster Universities Osteoarthritis Index
The author

The author of this thesis (AD) completed a BSc (Hons) in Behavioural Science in 1994, a Postgraduate Certificate in Education (Further Education) in 1997 and an MSc in Health Psychology in 2011. After graduating AD taught Psychology ‘A’ Level for 10 years. AD worked for a National Health Service (NHS) weight management provider prior to starting her PhD in 2012.
SECTION 1: INTRODUCTION

CHAPTER 1: BACKGROUND

1.1 Thesis overview

By 2030 an estimated 2.16 billion adults will be overweight, with 1.12 billion being obese (Kelly et al., 2008). The United Kingdom (UK) has the second highest prevalence of obesity in the world (Royal College of Physicians, 2013) and it is predicted that by the same date, a further 11 million people more will be obese (Wang et al. 2011). Obesity is a key risk factor for diabetes, cardiovascular disease, some cancers (Ahima & Lazar, 2013) and musculoskeletal conditions such as osteoarthritis (OA) (Wang et al. 2011) in particular knee osteoarthritis (KO) (Spector et al. 1994). The increase in this disease burden will cost the National Health Service (NHS) an extra 5.5 billion by 2050 (Wang et al. 2011) putting considerable strain on existing resources. Hence obesity is a major medical, public health and governmental priority (Jebb et al. 2013).

Both primary and secondary care are ideally placed for disease prevention and health professionals (HPs) can play a key role offering opportunistic behaviour change consultations (Swift et al. 2013). However, few consultations address weight management (Tham et al. 2008) and advice given by HPs can be inconsistent. Many barriers have been reported such as concerns about raising a sensitive topic, suboptimal training and the fear of negative reactions from patients. These barriers indicate room for improvement in clinical communication about obesity and a need for further research in this area.

As part of the further work undertaken, this thesis focuses on an exemplar condition in close detail, KO. KO and obesity exist concomitantly (Kulkarni et al. 2016) and obesity is the key modifiable risk factor for KO. Key policy guidelines recommend that all HPs should address weight management with KO patients as a first line therapy, so conversations about weight are important. Despite this, evidence suggests that discussions about weight are poorly exploited (Porcheret et al. 2007; Porcheret et al. 2013).

There is therefore a pressing need for understanding weight management dialogue between KO patients and HPs during routine consultations. The aim of this thesis is to investigate the views and experiences of both HPs and patients when discussing weight management and in
particular when patients have a Body Mass Index (BMI) of over 25 and have knee osteoarthritis.

The thesis follows three linked phases. 1. A systematic review and thematic synthesis of physicians’ views and experiences of discussing weight management within routine clinical consultations. 2. A qualitative interview study examining health professionals’ experiences of discussing weight management with overweight and obese knee osteoarthritis patients. 3. A qualitative interview study investigating overweight/obese patients with knee osteoarthritis experiences of discussing weight management with health professionals.

1.2. Obesity & key guidelines

Rates of obesity have almost doubled since 1980 (WHO, 2014) and trends predict a further 65 million more adults will be obese by 2030 (Wang et al 2011). In 2010 levels of overweight and obesity resulted in nearly 3 million deaths per year (Roberto et al 2015) suggesting an urgent need to curb this burgeoning health issue (WHO, 2014). Obesity is linked to cardiovascular disease, some cancers, diabetes (Wang et al 2011) and musculoskeletal conditions such as osteoarthritis (Sarwer & Polonsky, 2016) in particular knee osteoarthritis (Kandil et al 2014; Kulkarni et al 2016). By 2030, treatment costs for obesity related diseases are expected to increase by two billion pounds in the United Kingdom (Wang et al 2011) and research from the Foresight Programme suggests this could rise to an extra 5.5 billion pounds by 2050 (Kopelman, 2007). Obese patients incur nearly thirty per cent more HP consultations than normal weight patients (Wang et al 2011) and pose a significant cost to employers (Bray et al 2016). Environmental interventions such as urban planning, parks and changes to food information (McKinnon et al 2016) only partly address the rise in obesity levels (Dietz, 2015). Consequently, progress is dependent on shifts in health care practice such as HP training, education and delivery (Dietz, 2015). HPs are expected to address weight loss (Van Gaal & Maggioni, 2015) yet current evidence suggests they are at present ill-equipped to do so (Dietz, 2015).

The burgeoning trends in obesity have been used to steer key health policies and inform preventive strategies (Dietz, 2015). HPs are expected to play a pivotal role in the treatment of obesity (NICE, 2014) and guidelines from the United States of America (USA), Europe and the United Kingdom (UK) have been established to guide their practice (Dietz, 2015). The
World Health Organisation (WHO) classifies obesity as a ‘modifiable risk factor’ (WHO, 2014 p. 84) placing emphasis on the importance of interventions at an individual level (WHO, 2014). Several guidelines have been developed within the USA (Moyer, 2012; Ryan & Heaner, 2013). The United States Preventive Task Force (USPSTF) recommends that all HPs should refer patients with a body mass index (BMI) exceeding 30 kg/m$^2$ (Moyer, 2012) for weight management, stipulating the use of behavioural interventions such as goal setting, dietary changes and physical activity (Moyer, 2012). Furthermore obesity guidelines have been developed to facilitate key aspects of weight management and provide evidence-based recommendations for HPs (Ryan & Heaner, 2013). The European Association for the Study of Obesity (EASO) advocates a multidisciplinary approach to weight management (Yumuk et al 2014) highlighting missed opportunities within both primary care and hospital out-patient departments such as rheumatology (Fruhbeck et al 2014).

UK guidelines such as the National Institute of Health and Care Excellence (NICE) specify that all HPs should address weight management with patients in both primary and secondary care, emphasizing the importance of a patient-centred approach and effective communication with overweight and obese patients (NICE, 2014). Furthermore, appropriate training should be provided for all HPs to facilitate weight loss discussions (NICE, 2014) as well as the implementation of key behaviour change strategies such as goal setting, self-monitoring and social support. Making Every Contact Count (MECC) is an approach to improve health devised by the NHS and local government (NHS Future Forum, 2012). HPs are encouraged to utilize every opportunity with patients to discuss lifestyle issues such as healthy eating and weight management. However, implementation barriers have already been identified such as poor HP knowledge and skills and issues around responsibility (Elwell et al 2014). Nonetheless, evidence suggests these barriers can be overcome when HPs are provided with appropriate skills in behaviour change (Lawrence et al 2016). Finally, the Royal College of Physicians (RCP) suggests that HPs should exploit every opportunity to discuss weight management and play an important part in motivating patients to address their weight (RCP, 2014). This is particularly important in patients with long-term conditions (RCP, 2014).
1.3 Behaviour Change Techniques

Psychological ways of managing weight include increasing levels of physical activity, reducing dietary intake and encouraging healthy eating which are all modifiable health behaviours (Winter et al 2016). There is a plethora of literature drawing on health psychology theories concerning changing behaviours (Davis et al 2015; Halm et al 2006; Palmeira et al 2007; Romain et al 2016; Winter et al 2016). These focus on areas such as increasing physical activity (French et al 2014; Olander et al 2013), diet (McSharry et al 2015) and diet/healthy eating and physical activity in combination (Michie et al 2011a). One way that HPs can improve health (e.g. levels of obesity) is via behaviour change and the use of behaviour change techniques (BCTs) (Avery et al 2012; Cane et al 2015). A BCT is defined as a ‘concrete description of the methods used by a practitioner to change behaviour’ (Michie et al 2012 p. 1432). The most effective BCTs are evidence based (Michie et al 2011a) and have proven effective within consultations about weight (Abraham & Michie, 2008; Michie et al 2011a).

An emerging evidence base, resulting from systematic reviews and meta-analyses has identified specific BCTs in relation to key behaviours such as physical activity and healthy eating (Dombrowski et al 2012; Hankonen et al 2015). Some of these reviews have used the behaviour change taxonomy, which describes 93 different techniques that can be delivered by HPs or used by patients to self-manage (Cane et al 2015; Michie et al 2013). In a broad overview designed to identify the most effective BCTs for HPs when encouraging healthy behaviours such as smoking cessation, physical exercise and healthy eating, Van Achterberg et al (2010) concluded that no BCTs demonstrated a clear effect, although the use of self-monitoring, risk communication and social support were positive. However, the review focused predominantly on smoking cessation in comparison to healthy diets and exercise and key information regarding the intervention content was often missing or poorly reported (Van Achterburg et al 2010).

More specific reviews have focused on both physical activity and diet in isolation. In a meta-analysis of 139 studies, Michie et al (2009) reported that the use of self-monitoring in addition to one other BCT from control theory (Carver & Scheier, 1982) e.g. goal setting, feedback on performance, intention formation or review of behavioural goals was more effective in changing healthy eating/and physical activity than other BCTs. In line with previous research a review of systematic reviews identified the most effective BCTs to effect
change in relation to both diet and physical activity (Greaves et al 2011). The review made key recommendations to HPs and identified BCTs such as goal setting, self-monitoring and feedback on performance as the most effective. In addition, increased social support and maintenance were both associated with improved outcomes. Finally, in order to promote change, BCTs should not be used in a ‘stand alone’ capacity and focus on diet and physical activity in unison not isolation (Greaves et al 2011; Hankonen et al 2015).

Further reviews on weight management have also identified similar BCTs such as goal setting and planning in addition to feedback and monitoring (Hartmann-Boyce et al 2014). Contact with a health professional was also considered important although the amount or intensity was not established (Hartmann-Boyce et al 2014). Finally although previous reviews demonstrate the effectiveness of specific BCTs (Dombrowski et al 2012; Michie et al 2009) research so far has failed to examine contextual factors (for example the link between BCT use and weight loss) (Hankonen et al 2015). Evidence suggests that participants who use a higher number of BCTs report more significant weight loss (Hankonen et al 2015).

In essence research identifying specific BCTs in relation to weight management appears promising (Michie et al 2011a). However, little research has explored the expertise of HPs delivering interventions and their ability to influence both positively or negatively intervention outcomes (Michie et al 2011b).

1.4 The Doctor-patient relationship

Over previous years the HP-patient relationship has been studied meticulously (Deledda et al 2013; Ong et al 1995) and is perceived as pivotal to effective communication (Salmon et al 2011; Von Fragstein et al 2008) and patient care (Kerse et al 2004; Maatouk-Burmann et al 2016). This complex relationship (Ong et al 1995) is often emotionally weighted (Jagosh et al 2011; Ong et al 1995) and unequal, as patients perceive that it is still the HP’s responsibility to guide the consultation (Mazzi et al 2016). Effective communication between the HP and patient is vital to explore patient history and obtain diagnosis (Maatouk-Burmann et al 2016). It is also associated with increased patient satisfaction (Barrier et al 2003), adherence to treatment (Doyle et al 2013; Zolnierek & Dimatteo, 2009; Kerse et al 2004; Polinski et al 2014; Stewart et al 1999; Swain et al 2015) positive health outcomes such as osteoarthritis pain relief (White et al 2011) and improvements in health related quality of life (Aiarzaguen
et al 2007). HP communication training may enhance health promoting behaviours in patients (Doyle et al 2013; Haskard et al 2008) for example effective communication around weight management increased the likelihood that patients adopted changes in behaviour such as exercise and weight loss (Bolgonesi et al 2006; Durant et al 2009). Conversely poor communication between HP and patient affects patient adherence, outcomes and trust. For example Wilson et al (2007) reported that poor HP-patient communication led to patient cost related non-adherence which ultimately resulted in poor health outcomes (Swain et al 2015). Furthermore, research by Gudzune et al (2014) showed that when HPs displayed poor communication skills through implicit negative attitudes about obesity, patients were less likely to lose weight.

Although the HP-patient relationship has been investigated in depth it has mainly been explored from the HP perspective (Deledda et al 2013; Mazzi et al 2016). To obtain a better understanding of the HP-patient relationship research has now focused on the patient perspective (Deledda et al 2013; Mazzi et al 2016; Thorne et al 2013). Patients possessed different views as to what constitutes an effective HP-patient relationship (Jagosh et al 2011) but there appeared to be key characteristics that all patients desired e.g. patients valued listening within the HP-patient consultation suggesting it served to strengthen the HP-patient relationship. Patients were more likely to open up to a HP that listened effectively and associated this with a HP that cared; this was especially useful when discussing sensitive topics (Jagosh et al 2011). In addition patients placed value on the shared sense of partnership between the patient and the HP. Patients valued qualities such as caring, exploring the patient perspective and being non judgmental (Deledda et al 2013). Interestingly, although patients expected these interpersonal skills from their HP they did not always experience them (Deledda et al 2013). Finally patients appeared comfortable discussing sensitive topics but preferred the HP to take the initiative within the consultation (Mazzi et al 2016). These findings suggested that key aspects of HP-professional patient communication have key implications for health care provision (Durant et al 2009).
CHAPTER 2: HEALTH PROFESSIONAL-PATIENT COMMUNICATION AROUND OBESITY

2.1. CHAPTER OVERVIEW

Recent shifts in health care have resulted in an increased focus on HPs’ roles in managing and preventing weight problems (Field, 2012). Key guidelines, for example ‘Making Every Contact Count (MECC) suggest that all HPs should address weight management within routine consultations however we know these opportunities are poorly exploited (Grimshaw et al 2004). Three sets of barriers that are in operation have been identified, HP-related barriers, patient-related barriers and health system barriers (see Figure 2.1). In addition, each section will contain a number of barriers which will be examined in turn and the implications for weight management considered (see Figure 2.2).

2.2. BACKGROUND

Obesity poses a key global challenge (Swinburn et al 2011). Worldwide obesity rates have more than doubled since 1980 (WHO, 2016) as a result of, what has been described as an increasingly obesogenic environment (Kirk et al 2009). Statistical trends on data from the USA suggest that by 2030, 65 million more adults will be obese. In the UK, which has one of the highest obesity rates in Europe (Van Vliet-Ostaptchouk et al 2014) it is estimated that seventy per cent of people will be overweight by 2020 and by 2030, 11 million more will be obese (Wang et al 2011). These findings are cause for concern as evidence links obesity to increased mortality (Scott et al 2008) and other diseases such as type 2 diabetes, cardiovascular disease, some cancers and osteoarthritis (Wang et al 2011). It is estimated that the increase in this disease burden could cost the NHS an extra £5.5 billion by 2050 (Wang et al 2011) putting increasing pressure on existing resources.

Consequently, HPs are increasingly likely to encounter patients with obesity (Swift et al 2013). A number of key policy guidelines such as the National Institute for Health and Care Excellence (NICE, 2014a) and Making Every Contact Count (MECC) emphasise the importance of both primary and secondary care for disease prevention and behaviour change interventions (Mercer, 2009). These guidelines suggest that HPs have a duty to explore barriers to weight management during routine consultations (NICE, 2014) and can play a
pivotal role (Schauer et al 2014) seeing obese patients before they develop further complications (Jarvis, 2006). HPs have access to wide segments of the population (Bowerman et al 2001) offering key information (Heintze et al 2010) and being a trusted source of advice (Steptoe et al 2000).

A significant proportion of the population is registered with a General Practitioner (GP) (Mercer, 2009) with an estimated 72% of the population visiting their GP every year (Lucas et al 2005). This is expected to increase to 90 per cent in the next 5 years (Mercer, 2009). HPs in primary care are ideally placed to acknowledge the social environment (Visser et al 2008), to identify overweight at an early stage (Van Dijk et al 2012), to offer opportunistic behaviour change advice (Phillips et al 2012) and are widely seen as the gatekeepers of care (Simon, 2008; Tham et al 2008, Visser et al 2008). Moreover, in a recent report by the Royal College of Physicians HPs are urged to treat routine clinical consultations as an opportunity for discussions about weight management advice and to play a pivotal role in motivating patients regarding behaviour change (RCP, 2013). Both primary and secondary care consultations provide an ideal opportunity (Blackburn et al 2015; Lumley et al 2015) for health promotion, prevention and behaviour change (Mead & Bower, 2000; Pawlikowska et al 2012) and the HP-patient relationship is central to improvement of obesity treatment (Epstein & Ogden, 2005).

It appears however that discussions about weight are frequently missed within consultations (Antognoli et al 2014; Bleich et al 2011; Breitkopf et al 2012; Felix et al 2008; Jackson et al 2013; Kraschnewski et al 2013; Laidlaw et al 2014; Lavender et al 2014; Michie, 2007; Schaeur et al 2014; Swift et al 2013). In a survey of obese adults (N=2458) only a fifth received weight related discussions from their health care provider (Bleich et al 2011a). Similar findings were reported by Felix et al (2008) who found that just over forty percent of obese patients received weight related discussion from their HP and in a study examining patient consultations about weight (N=21200) nearly sixty per cent of HPs failed to discuss weight (Kraschnewski et al 2013).

Research suggests that patients both favour and trust advice from their HPs (Beran et al 2008; Visser et al 2008) regarding them with high perceived expertise (Van Dijk et al 2012). In addition, patients not only desire increased input from their HP about weight management (Dutton et al 2010; Thomas et al 2008) but HP advice has been shown to accelerate weight
loss effort and facilitate dietary changes (Handjieva-Darlen ska et al 2011; Hash et al 2003). Furthermore, patients are receptive to weight loss advice perceiving it as effective, motivational (Visser et al 2008) and informative (Huang et al 2004).

The Royal College of Physicians urges doctors to take an active role in weight management (RCP, 2013) yet the management of obesity in primary care appears fragmented (Epstein & Ogden 2005; RCP, 2013; Simkin-Silverman et al 2005) and GP participation has, thus far, been limited (Kushner, 2011; RCP, 2013). In addition, the quality of advice differs significantly when both initiating and delivering behaviour change with some GPs remaining unclear about what needs to be discussed and failing to address behaviour change. Literature from the USA suggests that patients find discussions about weight suboptimal and necessitate greater input from their HP (Tham et al 2008). Furthermore, doctors doubt the efficacy of available interventions (Epstein & Ogden, 2005) are uninterested in weight management (Mercer & Tessier, 2001) and have opposing views from patients in their counselling expectations (Heintze et al 2010). In a survey of GPs only three per cent reported they would direct obese patients to further services such as behaviour therapy (Cade & O’Connell, 1991) indicating conflicting attitudes towards obesity that may present significant barriers to obesity management (Epstein & Ogden, 2005).

Previous research has identified a number of barriers such as poor doctor self-efficacy surrounding weight management dialogue, ineffective health promotion interventions, the paucity of clinically effective interventions (RCP, 2013) and conflicting views regarding the etiology of obesity (Epstein & Ogden, 2005). This literature review aims to provide a comprehensive examination of the most salient barriers to doctor-patient communication of weight management (see Figure 2.2).
Figure 2.1. Summary of key barriers to health professional-patient communication regarding weight management.
2.3. HP-RELATED BARRIERS

Research in both primary and secondary care has progressively focused on the importance of the HP-patient relationship, demonstrating the salient connections between quality of communication, patient adherence and clinical outcomes (Harrington et al 2004). Key barriers to HP-patient communication around weight management will be discussed in turn such as conflicting models of health, need for additional training, comorbidity, gender, health professional BMI, weight-related stigma, not my role and the sensitivity of the topic (see Figure 2.2).
Conflicting models of health

HPs and patients frequently hold conflicting models of health (Haidet et al 2008; Ogden et al 2001) and this may present a barrier to HP-patient discussions around obesity. For example, HPs may differ in their beliefs regarding obesity resulting in suboptimal obesity management (Epstein & Ogden, 2005; Ogden & Flanagan, 2008). Research suggests that when HPs and patients report differing perspectives regarding the cause of the illness (for example clinicians focus on the biomedical aspects and patients the psychosocial) this led to weaker disease management (Cohen et al 1994). Similar findings have been reported in relation to obesity. HPs believe the etiology of obesity is non-medical, endorse behavioural factors (Puhl & Heuer, 2009) and perceive psychological problems as pivotal causes of obesity (Harvey & Hill, 2001). In contrast, the lay population promotes biological causes, thus endorsing a biological approach (Ogden & Flanagan, 2008). This is important as how HPs perceive the causes of a disease may lead to the sanctioning of an intervention connected to that specific solution (e.g. a biomedical cause resulting in a biomedical solution) (Haidet et al 2008; Ogden & Flanagan, 2008). Furthermore, it may well explain why HPs are reluctant to promote medical solutions, are pessimistic about biological interventions and are eager to adopt a more behavioural approach to weight loss (Ogden & Flanagan, 2008). Considering this, recognition by HPs that obesity is a medical problem may well trigger effective weight loss discussion (Kushner, 2011).

Need for additional training in weight management

Failure to engage in opportunistic discussions about weight may be the consequence of little or suboptimal training in weight management (Schauer et al 2014). Moreover, a considerable amount of literature suggests that HPs may be reluctant to engage in discussions about weight due to their perceived need for additional training (Kushner, 2011; Nanchahal et al 2009). Many HPs lack both the confidence and training to initiate weight loss discussions (Chisholm et al 2012; Martin et al 2006; Serdula et al 2003) and a significant proportion of HPs perceive their skills as suboptimal (Dutton et al 2010, Hansson et al 2011). For example, HPs feel less comfortable broaching weight management than discussing smoking cessation (Noordman et al 2013). This is concerning as HPs need to communicate specific recommendations (Davis et al 2008) and initiate weight loss discussions in a sensitive manner (Scott et al 2008). This lack of confidence may result from inadequate training in weight management counselling (Kushner, 2011). Forman-Hoffman et al (2006) found that less than a third of doctors reported
effective obesity management during medical school and Peters et al (2011) found that current skills-based communication programmes do not equip medical trainees with the necessary skills to initiate weight management. This is supported by previous research (Blane et al 2015; Bleich et al 2011; Fogelman et al 2002; Huang et al 2004; Timmerman et al 2000).

Findings suggest that practical applications are not developing at a similar speed to theoretical advances in behaviour change research (Blane et al 2015; Chisholm et al 2012). In a systematic review investigating the effectiveness of educational interventions in preparing medical students to deliver lifestyle behaviour change only twelve educational interventions targeted obesity management, nine were based in the USA, none were based in the UK and a significant proportion were atheoretical (Chisholm et al 2012). Consequently, barriers to weight management discussions may be more severe in the UK due to the variance in available interventions for medical students (Chisholm et al 2012) and training needs more significant. Furthermore, Chisholm et al (2013) suggest that barriers towards the integration of training within medical schools may exist. When medical educators were asked about obesity management education within medical schools discordant views were displayed with some questioning both its suitability and usefulness within medical education.

Similar findings have been demonstrated in other health professions. For example in a systematic review of nurse education Fillingham et al (2013) found that current undergraduate training in weight management is suboptimal and interventions are poorly reported. This was supported by Keyworth et al (2013) who found that although nurses are encouraged to address weight with overweight/obese patients they perceive nurse training as inadequate and lacked training and confidence when delivering weight management. Moreover, even with prior behaviour change training medical students use only a limited range of techniques when dealing with patients (Peters et al 2011). Yet early engagement at medical school is beneficial and medical students trained to understand the psychosocial needs of patients demonstrate enhanced communication skills (Hausberg et al 2012).

Training for HPs (post qualification) appears successful. When HPs participated in two workshops that were designed to enhance communication and augment behaviour change the results were advantageous (Davis et al 2008). HPs increased weight loss discussions and were more supportive of patients’ weight loss behaviours. Patients also expressed increased confidence to lose weight (Davis et al 2008). If HPs are to improve their weight management
skills there is a clear need for additional education in weight management throughout the physician training trajectory (RCP, 2013). This is necessary in order to overcome barriers such as insufficient skills and confidence to achieve positive behaviour change (Ory et al 2007).

**Comorbidity**

It is estimated that 74 per cent of obese patients has one or more comorbid condition (Mercer 2009). Given the clinical benefits for patients, it is understandable that HP-patient communication around weight is often targeted towards patients with higher BMIs and obesity-related co-morbidities (Galuska et al 1999; Potter et al 2001). However, this could also present a barrier to discussions about weight as HPs may focus on the patients’ pre-existing conditions rather than their weight (Huang et al 2004). This may be the result of time pressure during the consultation as these are likely to be more complex presentations. However, although there is evidence that patients with a higher comorbidity risk status are more likely to receive weight loss advice (Bleich et al 2011; Greiner et al 2008; Scott et al 2004; Smith et al 2011) research exists to the contrary. Scott et al (2004) found that in most encounters opportunities to discuss were rarely utilized. This even applied to patients who were visibly overweight (Scott et al 2004) and those who presented with comorbid conditions where weight loss would be clearly beneficial. Evidence suggests there may be missed opportunities on a number of levels. Firstly, to counsel patients with existing comorbidities, thus relieving their symptoms. Secondly, to counsel obese patients preventing obesity related diseases such as type 2 diabetes and osteoarthritis (Huang et al 2004) and finally, to provide opportunistic weight loss discussions to patients that present with illnesses that are not weight-related (Scott et al 2004).

**Gender**

Research has highlighted the importance of HP personal attributes (such as gender) and how this may act as a potential barrier to weight management (Pickett-Blakely et al 2011). HPs may possess both explicit and implicit attitudes regarding obesity when delivering weight management (Pickett-Blakely et al 2011). Both Holund et al (1997) and Galuska et al (1999) found that HPs reported more weight loss discussions with females than males and further evidence suggests that HPs are more inclined to provide weight loss advice to females than males with a BMI of 25kg/m² (Anderson et al 2001). This is cause for concern for a number of reasons. Firstly, men are more likely to be overweight than women (Adams et al 2005) and are less likely to believe their weight poses a risk to their health (Lawson & Wardle, 2013).
Secondly, men are more reluctant to seek weight loss treatment (Benedict et al 2008).

The picture becomes more complex when the gender of the clinician is introduced. Pickett-Blakely et al (2011) showed that obese males consulting male HPs were more likely to receive weight loss advice than obese females seeing a female HP (Pickett-Blakely et al 2011). Authors argued that this may be due to the “open dialogue” about weight in gender concordant interaction (Pickett-Blakely et al 2011, p. 618) or that both male and female HPs are reluctant to discuss weight with women fearing female patients possess improbable weight loss targets (Pickett-Blakely et al 2011). Conversely, previous research found that HPs did not favour either females or males when initiating advice about weight management (Beran et al 2008; Foster et al 2003). The difference in lack of an effect in the earlier work may be due to methodological factors. For example, Foster et al (2003) reported low response rates in the GP cohort which may suggest an over representation of GPs with an interest in weight management and as a consequence an increased awareness of negative stereotypes in relation to gender. Furthermore, Beran et al (2008) used focus groups (albeit segregated by gender) to collect the data. It is therefore possible that HPs may have been reluctant to speak openly and display gender bias attitudes, especially in the presence of their colleagues. In contrast, Anderson et al (2001) used anonymous questionnaires, received higher response rates and a wider demographic spread. This suggests that firstly, HPs may have been more open with their views and secondly the wider demographic spread may reflect existing socio-cultural contexts whereby women are more likely to be stigmatised than men (Anderson et al 2001).

Health Professional BMI

Levels of overweight and obesity amongst HPs are comparable to the general population (Hash et al 2003; Zhu et al 2011) so may act as a further barrier to obesity related HP-patient communication. Nurses are well placed to address weight management (While, 2014) yet levels of overweight/obesity within the nursing profession are high (Nahm et al 2012; Zapka et al 2009). Consequently, nurses may employ different communication methods based on their BMI. Firstly, overweight/obese nurses appear to use their weight status as a method to build rapport and demonstrate empathy (Aranda & McGreevy, 2012; Brown & Thompson, 2007) however, they were also concerned that their weight status would affect their professional credibility when delivering advice about weight (Aranda & McGreevy, 2012). Findings appear to support this, as patients were less likely to adopt behaviour change if the HP was overweight (Hicks et al 2008; Puhl et al 2013). Secondly, nurses with a BMI of 25 or less were
reticent to raise weight as they feared appearing indifferent or judgmental (Brown & Thompson, 2007). Conversely, in a systematic review Zhu et al (2011) found that normal weight HPs (nurses and doctors) were more likely to address weight with overweight/obese patients than their overweight colleagues. However, the review failed to include studies investigating HP weight status and weight management discussions. Furthermore, much of the weight data was self-reported which is prone to bias (Gorber et al 2007).

GPs with a normal BMI are more likely to initiate discussions about weight with patients who have a lower BMI when compared to their overweight/obese colleagues (Bleich et al 2012). They also report increased self-efficacy in their own judgment and advice (Bleich et al 2012). Moreover, the likelihood of both obesity diagnosis and weight loss discussions increased when the “physicians’ perception of the patients’ body weight met or exceeded their own personal body weight” (Bleich et al 2012 p. 1003). In contrast, overweight GPs are less likely to engage patients in the benefits of weight loss as opposed to normal weight GPs (Price et al 1987). GP weight may also affect patient satisfaction as patients report increased confidence and positivity when discussing weight with non-obese GPs (Forman-Hoffman et al 2006; Hash et al 2003). Research also suggests that when GPs are aware of their own BMI there is a greater tendency to encourage a treatment intervention and discourage patient satisfaction with their body image in comparison to GPs who were unaware of their BMI (Anderson et al 2001). This awareness may also manifest itself when discussing weight with patients as GPs engaged in health promotion behaviour such as exercise and healthy eating are more likely to discuss weight management with their patients (Kushner et al 1995; Leverence et al 2007) as are HPs who have experienced obesity (Hiddink et al 1995). However, Foster et al (2003) reported no significant barriers based on GP BMI and Bleich et al (2012) found that GPs with a higher BMI were more effective in achieving weight loss with their patients. Despite the conflicting evidence, these findings suggest that in some cases health professional BMI may impact obesity care. In order to reduce HP-patient barriers HPs with a higher BMI may benefit from targeted interventions to increase self-efficacy when delivering behaviour change talk.

**Weight related stigma**

A further HP-related barrier to weight management is the presence of weight related stigma that exists among clinicians, including GPs (Puhl & Heuer, 2009) and HPs specialising in obesity management (Friedman et al 2008). For example in a review by Puhl & Brownell (2001) GPs (*N*=318) held beliefs that obese patients were lazy, undisciplined and possessed
low will power. Similarly, in a meta analysis of nurse’s views of obese patients, a significant proportion perceived obese patients as both pessimistic and negative (Brown, 2005). These views reflect the beliefs of other HPs such as dieticians and physiotherapists. For example, Setchell et al (2014) reported survey results from physiotherapists (N=265) and found evidence of explicit weight stigma, yet, there was little evidence that this was reflected in practice. However, in a qualitative study exploring the views of patients’ interactions with physiotherapists, many patients reported adverse interactions around obesity suggesting these views might be evident during consultations (Setchell et al 2015).

Furthermore, in a study of 600 GPs, nearly a third perceived their overweight/obese patients as passive and lacking in motivation (Bocquier et al 2005). Moreover, participants that held these adverse attitudes were less likely to subscribe to medical journals than their more positive peers. The authors argued this could indicate unfamiliarity regarding the complex aetiology of obesity (Puhl & Heuer, 2009). Further evidence suggests that GPs expressing negative attitudes to patients are less likely to expect discussions around obesity to benefit overweight/obese patients and are more likely to set unrealistic treatment recommendations for their patients (Bocquier et al 2005; Campbell et al 2000).

Weight related stigma is also evident amongst the medical student community. For example in a study investigating the attitudes of dietetic students, the majority expressed weight related stigma and perceived obese patients as less likely to adhere to treatment. Similarly, in a study assessing weight bias in trainee doctors, nurses, nutritionists and dieticians (N=1130) over ninety eight percent held negative attitudes around obesity with over ten percent expressing significant weight related stigma (Swift et al 2013). Furthermore, Puhl & Heuer (2009) found that students possessed many of the same negative attitudes towards obese patients as qualified practitioners and Wigton et al (2001) found that medical students who viewed tapes of simulated obese patients and normal weight patients perceived that obese patients would be less likely to make lifestyle changes and benefit from discussions around weight management. It should be noted that weight stigma amongst HPs is not new: studies reveal these views have persisted over decades (Price et al 1987; Maddox & Liderman, 1969) and that unlike other forms of discrimination such as gender and race, weight bias has escalated (Andreyeva et al 2008). It is therefore logical to conclude that this persistence is likely to affect HP-patient communication regarding obesity (Foster et al 2003) and may undermine positive discussions about weight (Puhl & Heuer, 2009).
Not my role

A further barrier to weight communication is a belief by HPs that obesity is not within their professional remit (Bleich et al 2011; Epstein & Ogden, 2005; Hansson et al 2011; Kushner, 2011) and hence is an inappropriate and unnecessary use of their time (Epstein & Ogden, 2005). This in part may arise from a negative attitude towards overweight patients, but many HPs consider weight management to be a problem the patient, not the HP is responsible for solving. For example Ogden et al (2001) found that all GPs in her sample (n=89) expressed negative attitudes towards obesity and believed that patients were responsible for “both the cause and the solution” to their weight problem (Ogden et al 2001 p. 227). In addition, Jochemsen-van der Leeuw et al (2011) found that both GP trainers and GP trainees were pessimistic regarding the role of GPs when treating obesity suggesting their place was marginal in the management of obesity and should be limited to raising awareness. This enables the HP to place blame on the patient (Epstein & Ogden, 2005) and relinquish responsibility. However, Chisholm et al (2012) found that different doctor-patient relationships affected how responsible the HP felt about delivering behaviour change advice. When the GP had an increased rapport with a patient this was linked to increased responsibility and greater success. Research from the Counterweight programme (McQuigg et al 2008) supports this and suggests that a sense of responsibility, effective advice and a clear sense of ownership may trigger effective weight management discussions (Hansson et al 2011). Furthermore, it also suggests that the doctor-patient relationship is pivotal in obesity management (Hansson et al 2011).

It appears that other HPs may also perceive that weight management is not within their remit. For example, in a survey of occupational therapists over half reported that weight management was not their responsibility and referred patients to other HPs such as GPs and dieticians (Lang et al 2013). Similarly, Lumley et al (2015) found that a diverse range of HPs such as nurses, physiotherapists and occupational therapists perceived discussions about weight as not within their scope. Pertinently, less than eight percent of occupational therapists had received weight management training (Lang et al 2013) and HPs in both studies expressed a desire for training around obesity related discussions (Lang et al 2013; Lumley et al 2015). In comparison dieticians were comfortable delivering advice around weight management and perceived themselves as knowledgeable in this field. They had all received training in weight management (MacDonald-Wicks et al 2015).
Talking about weight is a sensitive topic

Findings show that clinicians from a wide range of health professions (Oteng-Ntim et al 2010) such as GPs and nurses (Blackburn et al 2015; Schauer et al 2014; Brown & Thompson, 2007), midwives (Heslehurst et al 2014) and physiotherapists (Setchell et al 2014) consider weight management a sensitive area to discuss (Blackburn et al 2015; Blane et al 2015; Greiner et al 2008; Kushner, 2011). For example an interview study with a heterogeneous sample of HPs in both primary and secondary care concluded that HPs were uncomfortable discussing weight with obese patients (Lumley et al 2015). There may be a number of reasons for this. Firstly, HPs may lack the confidence to address weight and fear using language that is inappropriate (Phillips et al 2013) or may offend the patient (Lumley et al 2015; Michie, 2007; Scott et al 2004). A recent study supported this, as HPs were reticent to broach the topic of weight, as they feared accusations of discriminatory behaviour (Lumley et al 2015). Secondly, HPs perceived that adequate time was needed to explore the delicate topic of weight and this was challenging within brief consultations. Moreover, HPs felt obliged to address the patient’s agenda (for example the reason for the consultation) rather than initiate discussions around weight (Blackburn et al 2015).

Thirdly, Chisholm et al (2012) found that doctors from a wide range of specialties were reticent to discuss sensitive topics regarding patients’ lifestyle for fear of upsetting the patient and damaging the highly valued doctor-patient relationship (Blackburn et al 2015). This fits with a broader literature that suggests that both doctors and nurses may be reticent to address and challenge patients about their conditions due to increased pressure (during training) to preserve the doctor-patient relationship (Chew-Graham et al 2004; Keyworth et al 2013). This is worrisome as patient-centred communication is essential when dealing with overweight/obese patients (Heintze et al 2010). Moreover, the way HPs approach this topic is likely to affect how patients respond to their HP (Dutton et al 2010) and to the advice given. If HPs are to feel confident when addressing the sensitive topic of weight, training for HPs is paramount (Blackburn et al 2015; Brown & Thompson, 2007; Chisholm et al 2013; Jackson et al 2013; Keyworth et al 2013; Lumley et al 2015; Michie, 2007).

HP attitudes towards obesity

It is therefore evident that barriers exist in weight management discussions such as HPs feeling unsure of their role, feeling unskilled and worrying about damaging the doctor-patient relationship. Many studies have used survey data to investigate barriers to weight loss
discussions (Bleich et al 2011a; Forman-Hoffman et al 2006; Foster et al 2006; Greiner et al 2008; Scott et al 2004; Simkin-Silverman et al 2005). However, there are key methodological weaknesses. Firstly, surveys fail to offer reasons why weight loss discussions are generated or why HPs are unresponsive (Scott et al 2004). Secondly, the content of the session itself is overlooked (Scott et al 2004) thus eliminating key reasons for weight loss dialogue. Finally, HP recall is often retrospective introducing recall bias (Greiner et al 2008) and HP response rates are frequently low (Forman-Hoffman et al 2006; Foster et al 2003). For example, in a national random sample investigating HP attitudes about obesity less than fifteen per cent responded (Foster et al 2003). This may suggest that HPs engaged in obesity related research are disproportionate, that negative views towards obese patients are under represented and that barriers to HP-patient weight loss are more prevalent than reported (Foster et al 2003).

Conversely, reliance on patient self-report data may also present further methodological weaknesses. Firstly, evidence suggests that patient and HP retrospective recall may be inaccurate (Felix et al 2008; Jackson et al 2005; Simkin-Silverman et al 2005) and subject to socially desirable answers (Felix et al 2008; Jackson et al 2005). Thus one way to explore the views and experiences of patients more thoroughly may be the use of qualitative research.

In addition, a substantial proportion of research investigating potential barriers to weight loss has used mainly quantitative methodologies (Epstein & Ogden, 2005). This may present problems as firstly, quantitative research may be reductionist simplifying the negative beliefs of the HP (Hansson et al 2011) and secondly, it may have explored these beliefs in an abstract manner ignoring crucial situational factors that are so vital within consultations (Epstein & Ogden, 2005). Qualitative studies have partly supported this notion (Brown et al 2007; Epstein & Ogden, 2005; Mercer & Tessier, 2001).

2.4 HEALTH-SYSTEM BARRIERS

In addition to HP-related barriers research has identified factors within the health system, which may limit the HPs’ ability to address weight management (see Figure 2). These include barriers such as the paucity of effective interventions and onward referral options, lack of time, the Quality and Outcome Framework (QOF) and the lack of resources.
Paucity of effective interventions and resources

A paucity of effective treatments within the health care system may present a further barrier to HPs when recommending weight management (Claridge et al 2014; Forman-Hoffman et al 2006; Jarvis, 2007; Hansson et al 2011; Logue et al 2014). This in turn may result in HP negativity regarding treatment options, (Huang et al 2004) prevent HPs from offering sufficient care to both overweight and obese patients (Nanchalal et al 2009) and strengthen the belief that weight management is ineffectual (Hoppe & Ogden, 1997; Michie, 2007; Ruelaz et al 2007). Previous research supports this as HPs expressed a lack of confidence in their ability to recommend weight loss interventions and few felt their efforts would be effective (Epstein & Ogden, 2005; Teixeira et al 2012; Ware et al 2012). Furthermore, HPs reported a general decline in their ability to administer nutrition education due to lack of time and patient motivation (Visser et al 2008). Furthermore, obesity was ranked as the least easy to treat out of 10 conditions and was thought to have similar success rates as drug addiction (Foster et al 2003).

The shortage of effective treatments that are evidence based may well create further barriers to HP-patient communication around obesity (Claridge et al 2014; McQuigg et al 2008; Ware et al 2012) McQuigg et al (2008) suggest that GPs will remain hesitant to utilise weight loss programmes and will remain doubtful that obesity is a medical problem unless weight loss advice is evidence based (McQuigg et al 2008). The Counterweight project, an evidence based weight loss programme support this and (NEPHO, 2005) reported increased enthusiasm from GPs when compared to alternative weight management programmes (McQuigg et al 2008,). Further research suggests increased uptake when health interventions are theory based (NEPHO, 2005). Considering these factors it is essential that future weight loss interventions are robust, theoretical and evidence based (Greiner et al 2008; Hansson et al 2011; Morgan et al 2011).

This pessimistic view of outcomes for obese patients is not ubiquitous. Forman-Hoffman et al (2006) showed in a survey of US doctors that they believed weight management was potentially advantageous and appropriate resources are available. However, it should be noted doctor response rates were low in this study, and that the health care system targeted (the Veteran Health Care Association) has developed a more advanced and coordinated system in comparison to alternative health systems in the US (Asch et al 2004). Considering these factors it may be wise to treat this evidence with caution.
With revenue in the NHS already stretched (Jarvis, 2006; Pencheon, 2015) a further barrier may include a paucity of HP resources (Bleich et al 2011; Brown et al 2006; Forjouh et al 2011; Huang et al 2004; Mercer 2009; Michie, 2007; Teixeira et al 2012; Tham et al 2000). Resources identified include insufficient teaching materials for patients (Bleich et al 2011a), inadequate office support (Smith et al 2011) and a dearth in human and physical resources (such as health educators or exercise specialists) to encourage long term weight maintenance in patients (Eley et al 2009). Research by Lumley et al (2015) suggests that HPs sometimes lack equipment (e.g. seating) for overweight/obese patients that is both appropriate and sensitive, presenting a barrier to weight loss discussions.

Furthermore, HPs frequently report lack of time as a barrier to weight management and have identified high relapse rates in patients with weight management problems (Timmerman et al 2000). Combining these factors with a lack of educational materials may also explain why some practitioners fail to facilitate behaviour change techniques such as goal setting and self-monitoring during routine consultations (Forjouh et al 2011; Timmerman et al 2000). It may also explain why patients describe weight management discussions that are time pressured (Brown et al 2006). It is therefore possible that patients perceive this as problematic and that key issues such as weight stigma (Puhl & Brownell, 2001) and low self efficacy (Mata et al 2010) combine to create further barriers (Brown et al 2006).

Lack of onward referral options

A further system barrier to weight management communication is the lack of onward referral opportunities (Bleich et al 2011a; Hansson et al 2011; Jolly et al 2011; Mercer 2009; Smith et al 2011). Hence, HPs coordinating patients care (e.g. GPs) may be reluctant to discuss weight management due to a shortage of tangible options for patients and the belief they have insufficient time and resources to deal with it themselves (Bleich et al 2011a). One potential option for GPs is the recent rise in NHS funded commercial weight management programmes. These are available in certain areas around the UK (Jolly et al, 2011) but unlike similar programmes in the USA; which have proven highly effective, are available for a limited time period only (Jolly et al 2011).

Research by Jolly et al (2011) suggests commercial weight management programmes are not only more effective but cheaper than primary care based offerings and make useful referral
options. However, HPs are often poorly informed about the efficacy of these interventions and data outlining weight loss outcomes are often limited (Truby et al 2006). This may suggest two things. Firstly, GPs located in areas where no commercial weight management services are available may be hesitant to address weight management due to lack of referral options for patients. Secondly, GPs may be reticent to recommend onward referral due to a paucity of robust data regarding their efficacy.

Lack of time

Lack of time may act as a significant barrier to HP-patient communication regarding weight management (Beran et al 2008; Bleich et al 2011a; Forjuoh et al 2011; Greiner et al 2008; Hansson et al 2011; Huang et al 2004; Lumley et al 2015; Ruelaz et al 2007; Shay et al 2009; Smith et al 2011; Teixeira et al 2012; Tham et al 2008; Timmerman et al 2000; Van Dijk et al 2012). This may be due to a number of reasons. Evidence indicates that obese patients often present with comorbid symptoms which creates competition for time spent discussing weight management (Blackburn et al 2015; Greiner et al 2008) and that HPs are now under increased pressure to perform medical tasks in other areas, such as screening for diabetes (Visser et al 2008; Waine, 2004). Nolan et al (2012) interviewed practice nurses \( N=22 \) and found that nurses were conscious they had more time for obesity related discussions than GPs but their time was still insufficient. Interestingly, when nurses were given sufficient time within consultations, this increased the likelihood they would discuss weight management. Finally, HPs within a hospital setting suggested there was inappropriate time to discuss weight, especially in such an acute setting and that it seemed unsuitable when patients had other complex issues (Lumley et al 2015).

When patients were asked why they had not discussed their weight concerns, nearly half perceived their GP would have insufficient time to discuss weight management (Tham et al 2008). However, an alternative argument suggests that when HPs argue they have a lack of time to perform health promotion tasks this may also serve to justify an alternative function for the HP, “having no time” infers “low priority” (Salmon et al, 2007 p. 273). It is therefore likely that perception of insufficient time, time pressures within the consultation and perhaps failure to prioritise health promotion tasks may act as a barrier. This is worrisome as doctors may then fail to determine a patient’s readiness to change (Greiner et al 2008; Scott et al 2004) which is important for effective behaviour change (Prochaska et al 1982). To address this barrier, short weight management interventions that are tailored towards brief HP
appointments have been developed (Little et al 2016; Ruelaz et al 2007; Wadden et al 2000). However, these have been based predominantly in the United States suggesting a need for further integration in both primary and secondary care (Jarvis, 2007; Lumley et al 2015).

**Policies and guidelines.**

In 2004 The Quality and Outcome Framework (QOF) was implemented as part of the General Medical Services Contract for GP practices in the UK (NICE, 2007). The fundamental aim was to provide a scheme offering both rewards and incentives for HPs in relation to patient care (NICE, 2007). The QOF provides a structure for identifying obesity by calculating BMI and assigning all patients over the age of 16 with a BMI of over 30 to an obesity register (Krause et al 2014). HPs are provided with a computerized ‘tick box systems’ to facilitate the process (Chew-Graham et al 2013). However, the QOF may present a barrier to weight management discussions for a number of reasons.

Firstly, it does not provide a tool to tackle the problem or address the challenges that HPs face around obesity related discussions (Jarvis, 2007; Blackburn et al 2015). In addition, although the government has promised substantial aid for treating obesity GPs have received inadequate resources and information to target the problem effectively (Brown, 2006).

Secondly, current policy may well generate tension within the HP-patient relationship. Obesity is a sensitive topic (Puhl & Heuer, 2009) yet HPs are encouraged to address the problem whilst maintaining satisfactory rapport and achieving adequate patient experience surveys (Blakeman et al 2011) to generate sufficient income. Thus HPs may endeavour to resolve this problem by neglecting self-management dialogue (Blakeman et al 2011). Chew-Graham et al (2013) suggests that the QOF inevitably leads to consultations with low levels of patient-centredness. This may have implications for discussions around weight management as overweight/obese patients respond to empathy (Pollak et al 2007) and patient-centredness (Gudzune et al 2013). Thorne (2016) suggests that the gap could be rectified in the future by encouraging targets that focus on patient-centeredness.

Thirdly, only 8 points from a possible 1000 are set aside for the construction of an obesity register (Gillam & Steel, 2013; McQuigg et al 2008). This suggests that HPs may well neglect practice based weight management support (McQuigg et al 2008) until greater financial support is offered. Furthermore, it is essential that the QOF includes evidence-based targets.
for effective obesity management in primary care (RCP, 2013). However, Scotland have now abandoned the QOF and there appears to be considerable debate regarding its future (Thorne, 2016).

Research investigating the recording of BMI within primary care between 1997 and 2009 demonstrated suboptimal levels of reporting (Booth et al 2012) with a slight increase in 2006 (Booth et al 2012). This increase coincides with the implementation of the Quality Outcome Framework and NICE guidelines, however, since 2006 rates have slowly declined (Booth et al 2012) and BMI monitoring levels have fluctuated (Booth et al 2012). Furthermore, despite the introduction of a clinical indicator for obesity within the QOF key problems still remain. Firstly, advice on how to record obesity remains scant, and secondly GPs may ‘lack incentives for improvement’ (Booth et al 2012, p. 7). This is cause for concern as receipt of a clinical obesity diagnosis elicits weight related discussions (AMRC, 2013; Booth et al, 2012; RCP, 2013). Thus doctors may benefit from more explicit guidelines, which in turn may decrease barriers to effective weight management.

A further health system barrier is the use of BMI within the primary care setting. HPs are reluctant to follow guidelines regarding BMI screening and favour ‘weight change’ as an indicator for discussions about weight (Smith et al 2011). In a nationally representative survey of HPs (N=1211), less than half calculated the patient’s BMI despite the availability of existing patient data (Smith et al 2011). This is cause for concern for a number of reasons. Firstly, this may suggest that HPs are uncomfortable with BMI determined terminology such as obese and overweight, which may in turn make them to less likely to address weight management. Secondly, over reliance on ‘weight change’ rather than the use of electronic records such as BMI data may lead to an underestimation of weight gain resulting in missed opportunities for discussions about weight.

Although the QOF provides incentives for GP practices in the UK, previous research suggests that a potential barrier to HP-patient communication regarding weight management is lack of HP reimbursement (Bleich et al 2011a; Dutton et al 2010; Forman-Hoffman et al 2006; Foster et al 2003, Hansson et al 2011; Lynagh et al 2011; Nawaz et al 2000; Tham et al 2008). In the US where discussions about weight are dependent on payment from insurance companies (Bleich et al 2011a; Forman-Hoffman et al 2006) nearly sixty per cent of primary care GPs classify this as a major barrier to weight management (Nawaz et al et al 2000) with over fifty...
per cent expressing a greater interest in preventive health dialogue if sufficient reimbursement was available (Foster et al. 2003).

Finally, barriers to HP-patient communication regarding weight management may also be hindered by HP guidelines. The National Institute of Health and Care Excellence guidance on obesity (NICE, 2006), updated in 2014 (NICE, 2014) encourages HPs to incorporate key behaviour change strategies and offers advice on implementation strategies (Mercer et al. 2009). However, this guidance is predominantly based in the United States of America with only two studies from the UK (from a total of 29) included when recommending behaviour change. In addition, research also suggests that few studies included in the NICE guidelines were located in primary care and that the population sample were predominantly volunteers indicating high motivation for weight loss (Mercer et al. 2009). This may be problematic as firstly, cultural differences may well influence intervention outcomes and secondly, NICE guidelines are developed to manage weight loss in the UK therefore questioning the pertinence of the research included (Mercer et al. 2009). Finally there is little evidence that guidelines change HP behaviour during consultations (Goodfellow et al. 2016) suggesting strategies encouraging active implementation are needed (Heslehurst et al. 2014).

2.5. PATIENT – RELATED BARRIERS

The third set of barriers identified in the literature are those related to patients themselves. The key barriers identified are low self-efficacy, patient motivation/ readiness to change and patient demographics.

Low self-efficacy

In order to address potential barriers to HP-patient weight management interaction it is vital that HPs are aware of the key assumptions/characteristics held by their patients, (Ruelaz et al. 2007), especially if significant weight reduction is to be achieved (Heintze et al. 2010). In a study investigating both HP and patient attitudes regarding weight management, patients expressed low levels of confidence in their HP, believed that discussions were unlikely to be beneficial and felt they should be competent enough to engage in weight loss by themselves (Ruelaz et al. 2007). This is in line with HPs views that they lack confidence when delivering weight management (Elwell et al. 2014; Heslehurst et al. 2013; Keyworth et al. 2013). Other work also suggests that obese patients may engage in health care avoidance are reluctant to engage with HPs (Bleich et al. 2011a) and hesitant to use health services as a source of weight
management (Ruelaz et al 2007) preferring to self-manage. This is cause for concern as a putative mediator of self-management is self-efficacy (a person’s belief that they have the ability to achieve their goal) (Bandura, 1977; Bodenheimer et al 2002). This is reported as low among obese patients (Hammarstrom et al 2014; Mauro et al 2008) and is in line with HPs’ perceptions that patients are unlikely to achieve their weight loss goals (Greiner et al 2008).

Furthermore, low self-efficacy is also linked to unrealistic weight loss goals (McQuigg et al 2008) and a key predictor of weight programme failure (McQuigg et al 2008; Shin et al 2011). Furthermore, a key source of self-efficacy results from verbal persuasion (Jerant et al 2005) suggesting patient-HP dialogue may raise self-efficacy thus increasing the potential for behaviour change. For example, Palmeira et al (2007) suggested that verbal persuasion from an intervention team and peers contributed to increased self-efficacy and Jeffrey et al (2004) found that self-efficacy was the most important predictor of weight outcomes. These findings suggest HPs should be alert to low self-efficacy amongst obese patients when instigating weight loss discussion. By doing so they may raise patient self-efficacy and reduce a key barrier to weight loss (Ruelaz et al 2007).

Patient motivation/readiness for change

The research around patient motivation and weight management appears contradictory. For example, despite evidence that obese patients experience low motivation for weight loss (Craft et al 2015; Lindhart et al 2013; Wadden et al 2000), Cox et al (2011) recorded weight management consultations between HPs and overweight/obese patients and observed high levels of motivation for behaviour change. Interestingly, few HPs used patient-centredness but noticeable differences in motivation for behaviour change were observed in patients that experienced increased empathy and patient-centredness from their HP (Cox et al 2011). Furthermore, in a USA Survey (N=302) two thirds of patients expressed motivation for weight loss and rated their capacity to lose weight as higher than their HPs (Befort et al 2006).

This is supported by Heintze et al (2010) who found that GPs’ underestimate patients’ desire for weight loss. This is cause for concern as we know that self-perceived motivation is pivotal for behaviour change (Befort et al 2006) and that behaviour change is more likely in the presence of externally situated rewards (GP approval) (Deci et al 2000). Moreover, evidence suggests that when patients feel supported by their HP they are more likely to engage in weight management (Buxton & Snethen, 2013; Craft et al 2015). Thus the doctor-patient
relationship may be key to patient weight loss. It is therefore likely that GP’s perception of patient motivation may act as a more significant barrier to weight management than patients’ actual motivation. Perceived motivation may preclude weight loss communication as HPs who perceive that patients lack motivation (Jay et al 2015; Keyworth et al 2013; Sonntag et al 2010; Teixeira et al 2012) are less likely to engage in weight loss discussions and may display lower expectations during dialogue with patients (Befort et al 2006). Consequently, HPs may miss opportunities to facilitate behaviour change with highly motivated patients and display “qualitatively different communication patterns” (Befort et al 2006, p. 1089).

There is evidence to suggest that HPs’ perception of patient motivation may affect their treatment of overweight patients (Befort et al 2006; Visser et al 2008). In a national survey of HPs ($N=620$) more than 40 per cent believed obese patients could achieve weight loss but were unlikely to do so (Befort et al 2006). In addition, studies have demonstrated that HPs attribute weight loss failure to poor motivation regarding behaviour change (Hiddink et al 1995; Mercer & Tessier, 2001), believe that patient success is likely to be limited (Bocquier et al 2005; Foster et al 2003; Teixeira et al 2012) and are generally pessimistic about behaviour change (Galuska et al 1999). HPs also cite lack of patient interest (Bleich et al 2011a; Epstein & Ogden, 2005; Nawaz et al 2000) and non-adherence to treatment (Bowerman et al 2001; Greiner et al 2008) as further barriers.

**Patient demographics**

Certain patient demographics may present a further barrier to weight loss discussions, for example variables such as patient age. The likelihood of patients receiving weight management advice based on age appears contradictory. In a survey of overweight/obese females ($N=3149$) HPs were more likely to raise weight management with older as opposed to younger participants (Breitkopf et al 2012). However, this cohort was also more educated and HPs are more likely to discuss weight with more educated patients so this may account for the increase (Felix et al 2008). Conversely, Galuska et al (1999) reported that weight management advice increased with age but then declined after the age of 60 (Galuska et al 1999). This is supported by Ko et al (2008) who found that elderly obese patients were less likely to report discussions about weight in comparison to a younger cohort. However, Jackson et al (2005) suggests that lower rates of HP advice are associated with younger persons. This suggests that weight management advice may be excluding vulnerable populations such as the very young and elderly and concentrating on populations more likely to engage in weight loss such as the
middle aged (Felix et al 2008). Furthermore, it may well be ignoring the long-term benefits of weight management in the other age groups. This disparity is concerning as weight management advice in the elderly can facilitate weight loss and in turn improve quality of life (Han et al 2013; Rejeski et al 2002; Villareal et al 2011). Furthermore, obese populations over the age of 65 are associated with decreases in both functional (Felix et al 2008; Han et al 2013; Jenkins et al 2004;) and cognitive health (Benito-Leon et al 2013; Felix et al 2008) suggesting that weight loss may be particularly beneficial for this cohort.

Research in the United States investigating vulnerable populations suggests that ethnicity may present a further barrier to weight management. Although research investigating patients with multicomorbidity (including obesity) indicates that ethnic minorities are more likely to receive advice about weight management than white Caucasian counterparts (Ma et al 2004) later work suggests weight related discussions towards ethnic minorities are poorly exploited (Bleich et al 2011b; Breitkopf et al 2012; Goel et al 2004; Jackson et al 2005). Durant et al (2009) investigated provider communication amongst participants from community health centres, a typically underserved population with substantial ethnic variation. Results suggested that a substantial proportion of this population were not engaged in weight loss discussions. The contrasting findings may be partly explained by race concordance (such as a black patient seeing a black doctor) between patients and GPs (Bleich et al 2011b). Research in the US suggests that patients in a race concordant relationship receive improved quality of care (Bleich et al 2011b). This is worrisome for a number of reasons. Firstly, evidence suggests disproportionate levels of obesity in ethnic minorities so opportunities for weight related discussions may be poorly exploited (Bleich et al 2011b). Secondly, it may indicate that HPs are unaware that obesity is more prevalent in patients from certain ethnic backgrounds. In the UK, Asian and Asian British populations are the most prevalent non-white ethnic cohorts representing 4 per cent of the population. Research suggests that South Asians are more likely to develop obesity and connected comorbidities than the white population (Gujral et al 2013; Misra et al 2011) yet a recent review suggested no studies had investigated predictors of obesity in these populations (Fraser et al 2012). Furthermore, literature investigating the prevalence of obesity related discussions in ethnic groups are very limited (Breitkopf et al 2012; Knierim et al 2015).

There is evidence that HPs engage in more weight related discussions with socioeconomically advantaged patients compared with more deprived counterparts (Jackson et al 2005; Wee et al
1999). This is despite higher levels of obesity in lower socio economic groups (Beauchamp et al 2014; Huang et al 2004; Mauro et al 2008; Mercer 2009) with increased multimorbidity (Mercer 2009) and elevated levels of depression (Jackson et al 2005). Despite this, research indicates a paucity of research in this area, (Mercer 2009) suboptimal services to match patient needs and a decrease in weight management advice from HPs (Jackson et al 2005). This decrease may be due to a number of factors. Firstly, increased levels of depression in this cohort may decrease opportunistic discussions about weight between HP and patient (Jackson et al 2005) and secondly, elevated levels of multimorbidity may augment time pressures (Jackson et al 2005). These barriers are concerning as persons of low socio economic status are less able to afford healthy diets (Mercer, 2001), to engage in weight loss behaviours (Wardle & Griffiths, 2001) and to use costly commercial weight loss interventions and attend expensive gyms (Mercer 2009).

Education is used frequently to measure socioeconomic status (Cohen et al 2012) and may present a further barrier. For example, those with higher levels of education are more likely to receive weight loss advice (Breitkopf et al 2012; Felix et al 2008). Similarly, those with lower levels of educational attainment are reported to receive less (Galuska et al 1999, Nawaz et al 2000). However, this may be problematic as those with a degree are less likely to be obese compared to non graduates (Frank et al 2008) and obesity is more prevalent within unskilled compared with skilled professions (Fraser et al 2012). Moreover obese patients with low literacy levels possess poorer levels of knowledge regarding weight loss and lifestyle change (Davis et al 2008). Hence, health practitioners are evidently not targeting the appropriate population.

Low literacy levels are ubiquitous among populations with suboptimal education levels (Greenhalgh, 2015; Schillinger et al 2004) and in particular ethnic minorities and the aged (Schillinger et al 2004; Shaw et al 2009). Figures suggest that nine million adults in the UK (aged 16-65) have low literacy levels (Kuczera, 2016) however, this figure may be an underestimation as data suggests that over a third of older adults report problems when reading and understanding basic health information (Bostock et al 2012). This is problematic as we know that literacy levels impede HP-patient communication (Nouri et al 2015; Sudore et al 2009), and that patients with low literacy levels report widespread communication problems with HPs (Schillinger et al 2004). Research suggests that patients with low levels of literacy (e.g. poor written communication skills) favour oral communication (e.g. face to face
consultations with their HP) (Gaglio et al 2012) however there is evidence that oral communication presents similar challenges (Schillinger et al 2004). For example, patients with low literacy levels find medical jargon and technical language confusing (Kelly et al 2007) and a recent review suggests discord between HP and patient levels of oral literacy (speaking and listening skills) (Nouri et al 2015). This has key implications as poor oral literacy between the HP and patient affects patient outcomes such as self-management and motivation which are key regarding weight management (Nouri et al 2015).

There is also evidence that HPs may fail to pinpoint and identify with patients who possess low literacy levels (Kelly et al 2007) as research suggests that HPs frequently overestimate literacy levels (Shaw et al 2009), especially patients from different ethnic backgrounds (Kelly et al 2007). Low literacy levels may therefore present a significant barrier to HP-patient communication around weight management. Weight communication dialogue typically involves high levels of information transmission with patients encouraged to complete food diaries, understand food labels and read obesity related educational materials (Kennen et al 2005). However, research in a public hospital in the US suggested that a significant number of obese patients were unable to read and understand weight loss information (Kennen et al 2005). They were also less likely to understand the health benefits of weight loss (Kennen et al 2005).

There is little research investigating the effects of both health and oral literacy (Bostock et al 2012; Nouri et al 2015) and a significant proportion is based in the United States (Bostock et al 2012). Considering this, further research is needed, in particular looking at discussions about weight. Low levels of literacy interact with other key factors such as race/ethnicity and in a report by the Royal College of Physicians HPs were urged to pay particular attention to people with learning disabilities (RCP, 2013). Regarding interventions, patients may profit from literacy directed educational materials (Kennen et al 2005) with an emphasis on shared decision making (Eckman et al 2012). Furthermore, patients may also benefit from HP training in techniques such as ‘teach-back’ which enable the HP to check patient understanding (Huang et al 2004; Kennen et al 2005; Nouri et al 2015; Schillinger et al 2003).

The literature examining doctor-patient communication barriers regarding weight management was predominantly US based so the suggestion that similar barriers exist in the UK should be treated with caution. Firstly, in the UK, the National Health Service (NHS) is available to all
the population and is free at the point of service (Blumenthal et al. 2012). Furthermore, over seventy per cent of the population visit their GP each year (Lucas et al. 2005) and 97 per cent are registered with a GP (Simon et al. 2008). Conversely, nearly 60 million people in the USA have no medical insurance (De Navas Walt et al. 2010), are required to pay high fees on point of service (Blumenthal et al. 2012) and may see their GP fewer than twice a year (Graham, 2008). Consequently, a higher prevalence of uninsured individuals in the US (Van Doorslaer et al. 2000) may belong to lower income populations, so patients involved in weight loss discussions are likely to be more wealthy and subsequently more educated. This, in turn, may affect the content of the HP-patient consultation as educated patients have more effective communication skills and are proficient at gaining information from their HPs (Harrington et al. 2004; Willems et al. 2005). Thus barriers identified previously may not be accurate or applicable to the UK population. It may also suggest that research evidence is “socially patterned” and has eliminated the population cohort with the most salient health requirements (Watt, 2002, p. 252).

### 2.6. CONCLUSION

Global obesity levels pose a significant health challenge (Bray et al. 2016). Key guidelines encourage all HPs to address weight management (NICE, 2014) making every contact count and HPs are ideally placed to do so (Nolan et al. 2012). However, opportunities for weight management in both primary and secondary care are at present poorly exploited (Antognoli et al. 2014; Lavender et al. 2014). In line with previous research a number of barriers to implementation have been identified from the health professional, health system and patient perspective (see Figure 1.2) (Goodfellow et al. 2016). These include factors such as inadequate training, lack of onward referral options and patient related barriers such as poor motivation. Consequently, HPs feel under confident and ill equipped (Dietz, 2015) during consultations about weight and are, at present, failing to meet the needs of overweight/obese patients (Lumley et al. 2015). Finally, practical applications have failed to develop at a similar speed to theoretical advances in behaviour change research (Blane et al. 2015). In order to address this gap training for all HPs is required and needs to tackle key aspects such as broaching a sensitive topic, weight related stigma, patient motivation as well as their ability to utilise behaviour change strategies during weight loss discussions (Blane et al. 2015; Dietz, 2015).
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CHAPTER 3: KNEE OSTEOARTHRITIS

3.1. Chapter overview

The previous two chapters have presented an argument for HP-patient communication as a focus for the management of knee osteoarthritis (KO) and obesity. Several barriers to effective support for weight management have been discussed. This chapter provides a rationale for focusing this area of study on the field of KO. It begins by explaining KO as a condition, its prevalence both globally and within the UK and its aetiology. It then continues to explore the diagnosis of KO, symptoms and treatments. Key international and European guidelines for the treatment of KO are then discussed alongside the link between KO and weight management.

3.2. Rationale for selecting knee osteoarthritis

There is a substantial body of evidence linking KO and obesity (Kulkarni et al 2016). Due to a growing elderly population and a rise in obesity levels, KO rates are set to escalate (Gudbergsen et al 2012) putting increasing strain on both primary and secondary care (Smink et al 2014). Consequently, key policy documents recommend that all HPs should address weight management as a first line option (Fernandes et al 2013; McAlindon et al 2014). Obesity is the single most modifiable risk factor for KO (Messier et al 2016) and the benefits of weight loss are multifactorial. For example, weight loss is associated with reductions in pain (Coriolano et al 2013) and is approximate to pharmacological options (Messier et al 2013). It is also associated with reduced levels of depression (Murphy et al 2016) increases in mobility (Focht et al 2005) and improved quality of life (Christensen et al 2005). Consequently, discussions about weight are essential. However, despite the key benefits for this population, weight loss is poorly exploited (Bernatsky et al 2012; Jinks et al 2010; Porcheret et al 2007; Porcheret et al 2013;). Thus there is clear scope for improvement in weight management in this condition.

3.3. Definition, prevalence & aetiology

**Definition**

KO is a progressive joint condition (Flouzat-Lachaniette et al 2016; Ringdahl & Pandit, 2011) that exists predominantly within the older population, namely persons over the age of 65 (Dawson et al 2004; Mannoni et al 2003; Ringdahl & Pandit, 2011). It is characterized by
wear and tear on the knee joints, reduction of articular cartilage (smooth tissue at the end of your bones where they form joints) (Leslie, 2000), changes in the subchondral bone (the area that provides support for the cartilage) and inflammation of the synovial membrane (one of the inner layers of the joint) (Flouzat-Lachanie et al 2016).

**Prevalence**

Prior research suggests that KO is now ranked eleventh amongst 291 conditions that affect global disability (Cross et al 2014). World prevalence rates for KO are estimated to be 4.8% to 5.2% in females and 2.8% to 3.1% in males (Cross et al 2014). In England 4.11 million have KO (Arthritis Research UK, 2014) and this is expected to rise to 6.5 million by 2020 (Arthritis Research UK, 2013). Incidence levels have burgeoned due to an aging population and the rise in obesity levels (a problem it is closely associated with – see section 3.5 below; Bijlsma et al 2011).

**Aetiology**

Research has outlined multiple risk factors for KO (Felson et al 1997; Silverwood et al 2014) with some that are modifiable (Felson & Zhang, 1998). Furthermore although the causes of KO are still not clear (Guilak, 2011; Zhai et al 2007) evidence suggests a complex condition that results from the synergy of both systemic and biochemical factors (Felson & Zhang 1998; Heidari 2011; Leslie 2000). These systemic and biochemical factors will now be briefly outlined.

**Systemic factors:**

**Age**

Unsurprisingly increasing age has been discussed as a key risk factor for knee osteoarthritis (Hootman et al 2003; Jinks et al 2008). Whilst the majority of research suggests a linear relationship between age and the onset of KO (Silverwood et al 2014) contrasting evidence suggests a non-linear relationship in males that peaks between the ages of 50 and 75 (Jarvholm et al 2005). However research investigating the very old has been omitted (Blagojevic et al 2010) with evidence suggesting a ‘leveling off’ in participants over the age of 80 (Oliveria et al 1995).
**Female sex/gender**

Another key risk factor identified is gender. A recent meta-analysis suggests that females are more likely to suffer from KO than males (Blagojevic et al 2010). This is also supported by research which suggests that KO is more prevalent in females over the age of the age of 50 (Oliveria et al 1995). Sex differences have important implications for the treatment of KO as we know that females report greater levels of pain than males (Sims et al 2009) as well as reduced mobility levels and poorer quality of life (Zhang et al 2010). However despite these findings evidence suggests that the reasons for sex differences are poorly misunderstood (Boyan et al 2013) although evidence suggests that prior to 50 years of age levels of KO are similar in males and females suggesting hormonal factors as a possible risk (Sims et al 2009).

**Post menopausal oestrogen deficiency**

Evidence suggests that hormonal factors, namely the reduction in oestrogen in females post menopause, acts as a risk factor for KO (Leslie, 2000; Mahajan et al 2005). For example post hysterectomy patients displayed greater vulnerability to KO (Hart et al 1999) yet patients taking hormonal replacement therapy were less likely to develop KO than non-oestrogen users (Szoek et al 2006). However, a recent meta-analysis suggested that only one study outlined oestrogen as a causative factor (Blagojevic et al 2010).

**Genetic predisposition/susceptibility**

Evidence suggests a key role for genetics in relation to KO (Michael et al 2010). Twin studies indicate a link between genes and KO ranging between 39 to 65 percent, independent of environmental factors (Spector et al 1996). In addition studies suggest that a total of nine genes have been linked to the likelihood of developing KO, in relation to both sexes (Valdes et al 2006). However, it is most likely to be an interaction between a number of genes and the environment rather than the effects of a single gene (Michael et al 2010; Spector et al 1996).

**Hand OA**

A further risk factor identified is hand osteoarthritis (HOA). For example in comparison to a control group women that develop KO were more likely to have HOA (Hart et al 1999). Consequently meta-analyses suggest a key association between HOA and the development of KO (Blagojevic et al 2010; Silverwood et al 2014).
In essence the previous systemic factors may accentuate vulnerability to KO through two areas. Firstly, by making people liable to injuries and secondly less proficient at repair (Leslie, 2000)

**Biochemical factors:**

Studies suggest that once systemic factors have been established biochemical factors such as occupational risk, joint injury, physical activity and overweight/obesity may begin to hinder joint repair leading to degradation (Felson & Zhang, 1998; Leslie 2000).

**Occupational risks**

Numerous studies have investigated the link between occupational risk and KO. For example evidence suggests higher levels of KO in certain occupations such as construction workers (Jensen et al 2000) and farmers (Sandmark et al 2000). Coal miners, presumably due to kneeling and crouching in a restricted environment are between 1.9 to 13 times more likely to develop KO than a control population (Michael et al 2010). Thus it seems that occupations that require repetitive lifting and kneeling may be more at risk from KO (Silverwood et al 2014).

**Previous knee injury/joint injury**

Recent research suggests a link between previous knee injury and the onset of KO. A longitudinal study involving female footballers who had reported a previous knee injury revealed that over fifty per cent developed KO (Lohmander et al 2004). In addition a meta-analysis across 16 studies suggests that previous knee injury is a key risk factor for KO (Blagojevic et al 2010; Silverwood et al 2014).

**Physical activity**

There also appears to be a link between an increased risk of KO and physical activity, although research evidence appears contradictory. Blagovic et al 2010 examined 21 studies and found that only high quality studies demonstrated a relationship between KO and those that exercise with high intensity. Felson et al 2013 reported conflicting evidence with some studies showing that physical activity increases the risk of KO, others suggesting that physical activity decreases the risk of KO and some suggesting no association. Evidence suggests numerous reasons for this such as higher physical activity levels may be linked to knee injury (Felson et al 2013).
Link between overweight and obesity and KO

Finally, overwhelming evidence suggests a link between overweight or obesity and the development of KO (Anderson & Felson, 1988; Howarth et al, 2010; Roth & Bessems, 2006). Murphy et al, 2008 investigated lifetime risk factors for the development of KO and found that nearly two out of three obese persons were likely to develop symptomatic KO in one knee. In addition, both population based studies (Grotle et al, 2008) and longitudinal studies (Felson et al, 1997; Cooper et al, 2000) have found a strong connection between a BMI exceeding 30 and KO.

Mechanical loading

The connection between obesity and KO is therefore evident but the pathophysiology of the link has been much debated. Recent evidence suggests that the link between KO and obesity is twofold. Firstly, the pressure of excess weight putting increasing load on the cartilage and secondly via adipose tissue (Duclos, 2016). It appears that excess weight affecting knee loading is key to the development of KO. For example, recent research suggests that each additional kilo may result in an extra six kilograms of load (Duclos, 2016). In addition, both clinical and animal studies suggest that excess weight results in the deterioration of cartilage (Sowers et al, 2010) in particular the tibiofemoral cartilage (Richette et al, 2011).

Adipose tissue

However, research suggests that a direct cause and effect relationship suggesting excess weight increases the mechanics of knee loading may be too simplistic (Aspden et al, 2011). This is supported by the fact that obesity is a key risk factor in persons suffering from osteoarthritis in non-weight bearing joints such as hands and fingers (Duclos, 2016).

This has led researchers to suggest that the changes in adipose tissue as a result of obesity may lead to systemic inflammation (Richette et al, 2011) and that this connection may be more important than the effects of excess loading (Aspden, 2011). Evidence indicates that adipose tissue reacts in a similar way to an endocrine organ by releasing inflammatory cytokines such as leptin into the blood stream (Richette et al, 2011). Increased levels of leptin have been identified within the synovial fluid of the joints in comparison to non KO controls (Duclos, 2016). Fowler-Brown et al, 2014 suggests that leptin is responsible for nearly half of the effect of obesity on KO as well as changes in cartilage function and osteophyte formation (Dumond...
et al 2003). Finally, evidence suggests that these changes may be pertinent when patients are centrally adipose resulting in a ‘vicious cycle’ of reduced mobility (Duclos, 2016, p.160).

In summary, research suggests that the causes of KO are multifactorial. Nonetheless, overweight or obesity appears to be one of the strongest modifiable risk factors (Richette et al 2011; Ringdahl & Pandit 2011; Silverwood et al 2014) and so weight management needs to be targeted (Blagojevic et al 2010; Silverwood et al 2014). Evidence suggests that despite the clear link between KO and obesity patients are still more likely to receive pharmacological treatments than weight loss advice (Silverwood et al 2014). This may be because health professionals find discussing weight management with OA patients challenging (Jinks & Ong, 2010; Morden et al 2014).

3.4. Diagnosis, symptoms & treatments

Diagnosis

At present there appears to be no ‘gold standard’ for the clinical diagnosis of KO (Zhang et al 2009 p. 10). However, it appears that in patients aged over 45 years of age both physical examination and patient history may result in an accurate diagnosis (Zhang et al 2009). Diagnostic tests used at present include radiograms, musculoskeletal ultrasound, physical examination and imaging/X-ray. Each one will now be examined.

Radiogram

Standing radiograms are the key mechanism by which KO is diagnosed and are classified as the clinical gold standard (Riecke et al 2014; Zhang et al 2009). Radiograms can identify joint deterioration and narrowing and are both widely available and economical (Iagnocco et al 2012; Riecke et al 2014). However, evidence suggests that this tool lacks precision and demonstrates poor accuracy when examining the intricacies of cartilage and tissue (Felson et al 2004). There is also a lack of consistency between radiogram findings and patient symptoms (Song et al 2007).

Musculoskeletal Ultrasound (MUS)

A further technique used to diagnose KO is musculoskeletal ultrasound (MUS). This is an imaging device and is used to detect early signs of deterioration and damage, for example in the soft tissue and articular cartilage (Iagnocco et al 2012; Song et al 2007). Key strengths of
MUS include ease of use, accessibility, economically viable and non-invasive (Iagnocco et al 2012). It is also quick to use and less superficial than techniques such as physical examination (Riecke et al 2014). However, evidence suggests that MUS may be dependent on the skill of the sonographer for example their knowledge of anatomy, experience, utilization of the equipment and their ability to interpret their findings (Naredo et al 2006).

**Physical examination**

Health professionals are encouraged to perform a physical examination of the knee using both inspection and palpation (Michael et al 2010) looking for factors such as ‘crepitus, warmth and tenderness, swelling and knee deformities’ (Leslie, 2000; p. 52). In addition HPs carry out a range of tests for both range and movement and functional tests such as gait analysis (Michael et al 2010).

**Imaging/X ray**

Simple X-rays are also used to diagnose KO (Song et al 2007) guide treatment and assess progression (Bedson & Croft 2008; Michael et al 2010). X-rays are useful as radiological signs of KO can be identified (Michael et al 2010) and are quick and easy to employ. One study suggested that clinicians rely heavily on X-rays when determining how to manage the condition and use them as a patient centred tool for self-management (Morgan et al 1997). However, evidence suggests that X-rays deliver poor accuracy regarding aspects such as inflammation (Song et al 2007) and that there is discordance between X-ray findings and knee pain (Bedson & Croft, 2008) for example some patients display serious bone degeneration and damage via X-rays but report little pain (Bhatia et al 2013; Kaukinen et al 2016).

**Magnetic resonance imaging (MRI)**

A further and increasingly popular technique utilised in the diagnosis of KO is MRI (Kaukinen et al 2016). This is used to evaluate structural changes and deterioration (Duryea et al 2016). Evidence suggests that MRI is a more sensitive tool than radiograms providing a clearer picture of bone lesions, cartilage, soft tissues and synovitis (Duryea et al 2016; Riecke et al 2014). It is also non-invasive (Riecke et al 2014). However, there are limitations for example MRI is an expensive technique to both purchase and utilize correctly (Duryea et al 2016; Riecke et al 2014) and in line with radiograms no direct correlation has been found between severity of symptoms and pain (Kaukinen et al 2016). Finally MRI may not be suitable for all
participants as patients may be restricted due to obesity and other medical reasons (Song et al 2007).

**KO symptoms & treatments**

**Pain**

Patients with KO present with numerous symptoms the predominant one being pain (Bandak et al 2015; Bijlsma et al 2011; Crema et al 2011; Murphy et al 2016; Somers et al 2012; Van Ginckel et al 2016). Pain is characteristically chronic (Leslie, 2000) and accompanied by stiffness that is worse with use and better with rest (Ringdahl & Pandit 2011). Pain is often the key reason that patients with KO seek help (Bijlsma et al 2011; Leslie, 2000) and is described as a dull ache (Michael et al 2010). As a symptom pain is challenging for HPs to both gauge and measure (Crema et al 2011). Furthermore, KO can result in the restriction of other joints (for example the hip and the ankle) resulting in knee instability (Leslie, 2000). Thus the KO patient may feel unstable on his feet (Lee et al 2016) and find stairs and uneven surfaces a particular challenge (Sanchez et al 2016). Addressing pain with overweight/obese KO patients should therefore be a priority as it is likely to provide additional challenges to weight management. Furthermore, patients with arthritis are keen to address pain reduction strategies with their HPs (Mehrotra et al 2004; Skuladottir & Halldorsdottir, 2008). However, evidence suggests that HP find discussions about pain challenging leading to an increased cycle of pain and reduced mobility (Skuladottir & Halldorsdottir, 2008). This is worrisome as a combined weight management and pain coping skills intervention demonstrated significant benefits in KO patients when compared to a standard care control group (Somers et al 2012). Patients showed improvements in multiple outcomes such as weight loss, pain and physical disability (Somers et al 2012). Finally, due to the chronic pain associated with KO patients frequently report increased levels of depression (Axford et al 2008), anxiety, fatigue and reduced quality of life (Lee et al 2016).

**Depression**

The existence of both pain and depression are common in patients with a physical illness (Walker et al 2014). However, this connection has been overlooked in the field of KO with research focusing on other musculoskeletal conditions such as rheumatoid arthritis (Pincus et al 1996) and fibromyalgia (Kurtze & Svebak, 2001). Its importance should therefore be addressed. Firstly, there appears to be a complex interplay between pain and depression
(Axford et al 2008) for example depressed patients with chronic pain are more likely to report higher levels of pain than non depressed patients (Ferreira et al 2015). This is likely to affect a patients’ ability to exercise and provide further challenges for patients engaging in weight management, for example, we know that depressive symptoms are linked to poorer weight loss outcomes (White et al 2015). In addition, the existence of both pain and depression are likely to increase illness symptoms resulting in more frequent consultations and growing costs to the National Health Service (Axford et al 2008). Conversely, this may also provide further opportunities for HPs to engage in opportunistic consultations about weight.

It is therefore essential that the existence of pain and depression are addressed prior to other treatment methods (Axford et al 2008). However, research has shown that HPs’ treatment of depression in patients with KO is often suboptimal and levels of depression within KO patients are often underestimated (Memel et al 2000). Finally, recent evidence suggests that female patients with KO report higher rates of depression than males (Ferreira et al 2015). This demonstrates that females may need increased support with weight management than males.

**Fatigue**

When depression is comorbid with pain and illness it can result in increased levels of fatigue in KO patients (Ferreira et al 2015; Power et al 2008). Research in this area has been generally overlooked and fatigue is perceived as an ineffectual symptom (Power et al 2008). This is concerning as patients with KO report higher levels of fatigue compared to healthy controls (Ferreira et al 2015) as well as negative physical and emotional outcomes (Power et al 2008). Reasons for fatigue in patients with OA are numerous for example, patients report disrupted sleep patterns due to pain (Gandhi et al 2015; Power et al 2008) the burden of living with chronic pain, the effects of pain medication and the weather (Power et al 2008). Fatigue also appears to worsen as OA symptoms progress (Allen et al 2013) so has key implications for weight management. For example, exercise is recommended for KO patients as a first line option (McAlindon et al 2014) yet fatigue is likely to affect the ability to exercise (Petursdottir et al 2010) and lose weight. Conversely research suggests that patients exercise may be a useful coping mechanism for fatigue (Power et al 2008) as it results in decreased levels of fatigue (Westby, 2001).
Quality of Life

As mentioned previously (see Section 3.4) patients with KO frequently report increased levels of pain and stiffness resulting in disability and lower physical functioning (Alkan et al 2014; Reis et al 2014). Consequently these limitations can lead to reduced quality of life (Kulkarni et al 2016; Murphy et al 2016; Reis et al 2014). Quality of life (QoL) is perceived as a key outcome measure for many health conditions (Alkan et al 2014) and is defined by the World Health Organisation as “a broad ranging concept affected in a complex way by the person’s physical health, psychological state, level of independence, social relationships, and their relationship to salient features of their environment” (WHOQOL Group, 1995, p. 1403).

Various QoL measures have been used to assess health status with KO patients such as the SF-36 (Alkan et al 2014; Ferreira et al 2015), the OAKHQOL (Osteoarthritis Knee Hip Quality of Life) (Guillemin et al 2016) and the Western Ontario and McMaster Universities Arthritis Index (WOMAC) which is used to measure pain (Berna-Pineda et al 2014; Bruyere et al 2012; Reis et al 2014). Patients with KO report significantly lower QoL scores than healthy controls (Alkan et al 2014;) even in the preliminary stage of their condition (Berna-Pineda et al 2014; Reis et al 2014). Reasons for this are twofold. Firstly, there appears to be a link between pain and reduced rates of QoL (Alkan et al 2014) secondly, levels of both anxiety and depression are higher in patients with KO than healthy controls (Ferreira et al 2015). In both instances rates were higher for females than males (Ferreira et al 2015). Conversely, patients that report improved pain as a result of weight loss demonstrate improved QoL scores score and function (Kulkarni et al 2016) suggesting weight loss in patients with KO alleviates pain and has psychosocial benefits.

Crepitus

A further symptom of KO is crepitus or crepitation (Berna-Pineda et al 2014). This is characterised by joint grinding or the sound of cracking in the joint (Crema et al 2011). Crepitus is identified through physical examination and may or may not be associated with pain (Crema et al 2011). Further characteristics include bony hypertrophy (Leslie, 2000; Mahajan et al 2005) warmth and tenderness (Leslie, 2000) and swollen knees (Leslie, 2000; Mahajan et al 2005; Ringdahl & Pandit 2011).
KO treatments

The American College of Rheumatology (ACR) (Hochberg et al 2012), the European League Against Rheumatism (EULAR) (Fernandes et al 2013), the National Institute for Health and Care Excellence) (NICE) and the Osteoarthritis Society International (OARSI) (McAlindon et al 2014) all recommend the management of KO. Patients with KO are varied but recommendations are typically divided into two key areas: conservative and non-conservative treatments. Conservative treatments include pharmacological options such as analgesics, non-steroidal anti-inflammatory drugs and steroid injection therapy as well as non-pharmacological options such as physical therapy, patient education and weight loss. Non-conservative treatments are offered as a last resort and include knee arthroscopy and total knee replacement (TKR). Recent guidelines now focus on non-pharmacological management of KO (such as weight management) (Fernandes et al 2013) although Zhang et al 2008 suggests that optimal management of KO requires a combination of both pharmacological and non-pharmacological modalities (Jordan et al 2003; Zhang et al 2008).

Conservative treatments

*Pharmacological options* include the use of analgesics, non-steroidal anti-inflammatory drugs, and steroid injection therapy.

Evidence suggests that analgesics (painkillers) such as paracetamol should be recommended as a first line therapy (Grainger & Cicuttini 2004; Pendleton et al 2000). Paracetamol can be taken over a long period of time and is relatively economical and safe (Grainger & Cicuttini 2004). Aceteminophen is also recommended in response to mild/moderate pain in patients with KO (Kennedy & Moran, 2010; Leslie, 2000; Zhang et al 2008). In addition the EULAR suggest that acetaminophen is the most suitable analgesic for long term pain relief (Kennedy & Moran, 2010). However, evidence suggests that if pain levels are not effectively managed patients should use alternative, stronger pharmacological options such as Non-steroidal anti-inflammatory drugs (NSAIDs) (Zhang et al 2008).

*Non-steroidal anti-inflammatory drugs (NSAIDs)*

NSAIDs are used as a key therapy for joint pain (Kennedy & Moran, 2010) and evidence suggests that they are effective in reducing pain in patients with KO (Zhang et al 2008).
However, several studies suggest a link with gastrointestinal discomfort (Leslie, 2000; Tramer et al 2000) and suggest that long-term use should be avoided (Zhang et al 2008).

*Topical NSAIDs: capsaicin cream*

Topical NSAIDs and capsaicin cream have been recommended by seven out of the nine existing guidelines (Zhang et al 2007). Studies suggest that they are effective as an adjunct to oral analgesics (Leslie, 2000) and may be useful as a solo modality for effective pain relief (Zhang et al 2008). For example OARSI guidelines suggest that topical capsaicin is more effective than a placebo for pain alleviation (McAlindon et al 2014). However, evidence suggests that efficacy may be reduced after long-term use (Leslie, 2000) and that nearly fifty percent of patients report burning and stinging after use (Kennedy & Moran 2010; Leslie, 2000; Zhang et al 2008).

*Steroid injection therapy/corticosteroid therapy*

Finally, steroid injection therapy may be offered to patients with KO. This involves an intraarticular injection (injection into the joint space) of a corticosteroid (Leslie, 2000). A number of systematic reviews have suggested that injection therapy is efficacious for short term pain relief (Richmond et al 2009; Zhang et al 2008) however further evidence suggests that pain relief may be effective for up to six months (Arroll & Goodyear-Smith, 2004; Leslie, 2000). This could provide the health care professional with a window of opportunity to address lifestyle change issues such as weight management and exercise during a period of time in which the patient is relatively pain free. It also may be useful for patients that are intolerant to other medication such as NSAIDs (Leslie, 2000).

*Non-pharmacological options*

All key guidelines (ACR) (Hochberg et al 2012), (EULAR) (Fernandes et al 2013), (NICE) and the (OARSI) (McAlindon et al 2014) stipulate treatment recommendations for the non-surgical management of KO. The guidelines focus on three key areas, physical therapy such as exercise, patient education/self-management and weight management. In previous years there has been increasing emphasis placed on non-pharmacological options however evidence suggests that the specific details surrounding these options (such as how often, how long and when these options are delivered) are often overlooked resulting in poor care for the KO patient (Fernandes et al 2013).
**Physical therapy**

Exercise is also another key recommendation for the management of KO. Evidence suggests that exercise is effective in reducing pain (Fernandes et al 2013; Zhang et al 2010) in particular when quadriceps are strengthened (Fernandes et al 2013). In addition research suggests that simple exercises such as walking, yoga and Tai Chi are effective in reducing pain (Fernandes et al 2013; Roddy et al 2005). However a holistic approach to exercise advice is optimal tailoring exercise to each personal situation (Bijlsma et al 2011).

**Patient education**

Key guidelines suggest that providing KO patients with information about their condition (for example symptoms and the importance of lifestyle changes) should be a core recommendation. Providing information to patients is patient centred and encourages active self-management (Bijlsma et al 2011). For example, evidence suggests that when patients are provided with information about OA and given advice about exercise and weight management (as opposed to patients with usual care) their weight loss reduction was more effective in comparison to the usual care group (Zhang et al 2010). However, evidence suggests that providing information may not affect key symptoms of OA such as pain (Zhang et al 2010).

### 3.5 Key guideline recommendations

All key guidelines (ACR) (Hochberg et al 2012), (EULAR) (Fernandes et al 2013), (NICE) the (OARSI) (McAlindon et al 2014) and the American Academy of Orthopaedic Surgeons (AAOS) (2014) ubiquitously recommend weight management as a first line therapy. The ACR state that weight management should be raised with all overweight patients with KO (Hochberg et al 2012) whilst EULAR suggest a more tailored approach to weight management such as self-monitoring, goal setting and addressing individual eating behaviours. Furthermore EULAR are quick to endorse the need for more skills and training for health professionals, notably in the field of lifestyle behavior change (Fernandes et al 2013). The OARSI suggest that patients with a Body Mass Index (BMI) of over 25 should be counseled and supported regarding weight management and given information about their treatment and the benefits of lifestyle change and weight reduction (Zhang et al 2008). The OARSI emphasise active patient centred treatments rather than health professional oriented treatments (Zhang et al 2008). Finally both NICE and the AAOS endorse weight management for patients with a BMI of over 25 stipulating that interventions to achieve weight loss are beneficial. However, a recent
study observing the implementation of conservative guidelines for the treatment of KO over a two year period is cause for concern (Smink et al. 2014). Most conservative treatments for KO were adhered to however weight management was not. Only fourteen percent of patients reported discussing weight management with their HPs during a consultation about their knee (Smink et al. 2014) this is in line with previous research, which suggests that HPs find the topic of weight management challenging (Jinks & Ong, 2010). These findings suggest that further research to examine both the barriers and facilitators regarding the use of conservative treatments, in particular weight management, for KO is essential (Hofstede et al. 2014).

Non conservative treatments

Finally non conservative measures such as Total knee replacement (TKR) are discussed although these are only endorsed when all conservative options have been explored (Michael et al. 2010).

3.6. Knee osteoarthritis & weight management

There is a plethora of research connecting knee osteoarthritis and obesity (Aspden, 2011; Blagojevic et al. 2010; Christensen et al. 2005; Duclos, 2016; Gersing et al. 2016; Silverwood et al. 2014). Estimates suggest that the probability of developing knee osteoarthritis over a lifetime increases with BMI and is almost two in three for persons that are obese (Murphy et al. 2008). Guidelines suggest that weight management should be offered as a first line therapy for patients with KO as research suggests positive benefits from weight loss (Christensen et al. 2005). Recent research reported that weight loss over a 4 year period decreased cartilage deterioration (Gersing et al. 2016) with a further study suggesting that a ten percent weight loss over a period of two months can increase mobility (Christensen et al. 2005). Furthermore evidence suggests a positive link between weight loss and reduction in pain. Huang et al (2000) reported significant pain relief in patients that were able to lose more than twelve percent of their body weight and further research suggests that weight reduction in combination with exercise reduces both pain and increases mobility over a six month period (Messier et al. 2000).

A considerable amount of research has investigated the outcome of weight loss interventions with overweight/obese patients with KO (Christensen et al. 2007). Interventions have focused on a combination of exercise and diet (Focht et al. 2005; Messier et al. 2004; Messier et al. 2013; Miller et al. 2008; Miller et al. 2012; Wang et al. 2007) dietary intervention alone (Aaboe
low energy diet with support from a dietician (Bliddal et al 2011) and gastric surgery (Richette et al 2011). Key outcome measures have investigated factors such as pain, (Bliddal et al 2011), self-reported disability (Christensen et al 2007), mobility related self-efficacy (Focht et al 2005), changes in osteoarthritic progression (Bartels et al 2014) and physical function (Messier et al 2000). Repeatedly, findings from interventions suggest that weight loss in KO patients results in symptomatic relief (Richette et al 2011; Messier et al 2004) such as reductions in pain (Bliddal et al 2011; Christensen et al 2005; Christensen et al 2007; Focht et al 2005; Messier et al 2000; Messier et al 2004; Richette et al 2011). Furthermore, there appears to be a clear link between weight loss and an increase in physical ability (Christensen et al 2005; Christensen et al 2007; Focht et al 2005; Messier et al 2000; Messier et al 2004; Miller et al 2006; Richette et al 2011) in addition to other positive effects such as decreased mortality and morbidity (Henriksen et al 2013). Consequently, research suggests the uptake of weight loss interventions within rheumatology teams (Christensen et al 2007) and that all HPs should address weight management with KO patients (Bliddal et al 2011). Finally, even brief weight loss interventions were considered effective (Aaboe et al 2011; Christensen et al 2007) suggesting the potential for key savings within the health service.

3.7. Chapter summary

The association between obesity and osteoarthritis has been neglected (Aspden, 2011). KO is inextricably linked to obesity (Spector et al 1994) and with levels of obesity set to rise (Wang et al 2011) and increasing numbers of older citizens; patients presenting with KO will escalate (Ravaud et al 2009) putting increasing pressure on both primary and secondary care (Arthritis Research UK, 2013). Research has identified multiple causes for KO such as aging, female gender, work related injury, and genetic causes, however obesity is one of the strongest modifiable risk factors (Ringdahl & Pandit 2011; Silverwood et al 2014). Weight loss has multiple benefits for KO patients. It reduces pain (Somers et al 2012) increases mobility (Richette et al 2011) and improves QoL (Kulkarni et al 2016). Furthermore, weight loss may act in a preventive capacity (Mehrotra et al 2004) as excess body weight accelerates the progression of KO (Felson et al 1992). Consequently, key guidelines suggest that HPs conducting consultations around KO should explore conservative treatments prior to seeking surgical options (Zhang et al 2008) and offer weight management as a first line therapy (Zhang et al 2008). Receiving advice from a HP has key benefits. Obese patients with arthritis who received advice about weight loss from a HP were three times more likely to engage in
weight management than patients who had not (Mehrotra et al 2004). Despite the evident rewards, discussions about weight are often poorly exploited (Conaghan et al 2015; Doubova & Perez-Cuevas 2015; Mehrotra et al 2004; Smink et al 2014). HPs are more comfortable with pharmacological treatments than discussions about weight (Healey et al 2014; Porcheret et al 2007) and find addressing weight uncomfortable (Jinks & Ong 2010). Barriers within the consultation must therefore be explored further.
3.8. REFERENCES


SECTION 2: METHODS

CHAPTER 4: GENERAL METHODS

4.1. Chapter overview

This chapter provides both an overview and extension of the methodologies that were chosen for the empirical work presented within this thesis. It also provides a summary of the key studies (aims and methods) within this thesis (see Table 4.1).

The Chapter is written in the format of a methods section for a Journal article and is organized within 5 sections:

1. Methodology rationale: This provides a summary of why qualitative research was chosen for each of the studies described.

2. Ethical approval and data management

3. Qualitative methodologies and procedures: Methodologies employed within each of the 3 empirical studies (see Chapter 5, 6 and 7).

4. Reflections from interviewing health care professionals and patients

5. Recruitment and sampling: how both health professionals and patients were recruited for the Health Professional study (see Chapter 6) and the patient study (see Chapter 7).
### Aims of the Thesis

Table 4.1 provides a summary of the key studies (aims and methods) within this thesis.

<table>
<thead>
<tr>
<th>Study no</th>
<th>Research aims</th>
<th>Methods/sample</th>
</tr>
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<tbody>
<tr>
<td>1.</td>
<td>To systematically search and synthesise physicians' views and experiences of patients with knee osteoarthritis in talking about weight with health professionals.</td>
<td>Telephone interviews (N=14), Face-to-face interviews with patients (N=26)</td>
</tr>
<tr>
<td>2.</td>
<td>To explore health professionals' views and experiences of discussing weight management with overweight knee osteoarthritis patients.</td>
<td>Face-to-face interviews (N=12), Telephone interviews (N=14)</td>
</tr>
<tr>
<td>3.</td>
<td>To investigate the views and experiences of patients with knee osteoarthritis in talking about weight with health professionals.</td>
<td>Face-to-face interviews with a range of HPs (N=26), Telephone interviews (N=14)</td>
</tr>
</tbody>
</table>

Table 4.1
4.3. Rationale for qualitative methods in health research

Evidence suggests a sharp rise in qualitative research within health research (Bradley et al 2007; French & Galvin, 2016; Pope & Mays, 2009; Rosenthal, 2016) as well as recognition of its increasing value in undertaking research in the area of health (Dixon-Woods & Fitzpatrick, 2001; Rosenthal, 2016). It is suggested that qualitative research will become increasingly important in the future (Rosenthal, 2016). Qualitative methods capture peoples’ views and experiences (Lau & Traulsen, 2016) and value both the users and health professionals’ perspectives (Mann & Gooberman-Hill, 2011; Pope & Mays, 2009). Qualitative research has been conducted in a number of areas relevant to this thesis such as physician-patient relationships (Diamond-Brown, 2016; Paternotte et al 2015), understanding the experiences of HPs and patients when discussing weight management (Blackburn et al 2015; Heintze et al 2012), exploring patients’ views and experiences of knee osteoarthritis (Belsi et al 2015; Chan & Chan, 2011; Hendry et al 2006; Kao & Tsia, 2013; MacKay et al 2014; Power et al 2008) and the views of HPs regarding osteoarthritis and knee osteoarthritis (Paskins et al 2013; Prasanna et al 2013). In addition qualitative papers have explored the opinions of both patients and HPs (Alami et al 2011; Mann & Gooberman-Hill, 2011; Zbehelik et al 2016).

“Qualitative research methods involve the systematic collection, organisation, and interpretation of textual material derived from talk or observation” (Malterud, 2001 p. 483). Philosophical reflections on science resulted in an upsurge in qualitative research in the seventies (Wertz, 2014) however, its roots lie in social constructivism or realism (Caelli et al 2003). Qualitative research differs from quantitative research in a number of ways. Firstly, quantitative data interpretation is primarily objective and typically takes place in an experimental setting (Peters, 2010). In contrast qualitative research is subjective and elucidates social phenomena in a natural environment (Pope & Mays, 1995). Furthermore, qualitative research data is typically generated from interviews or focus groups, conversely quantitative data is frequently based on surveys or questionnaires (Peters, 2010). Qualitative research adds considerable value. It helps us to understand the “why” people behave in the way they do (Rosenthal, 2016 p. 509) whilst “giving voice to participants” (Peters, 2010 p. 35).
4.4. Methodology Rationale.

Systematic reviews and synthesizing data across studies is important (Bartra et al 2013; Heslehurst et al 2014; Hopewell et al 2015). For example meta-analyses pool data from larger, more diverse samples (Kramer et al 2013). Due to the increasing growth in reviewing methods, in addition to the gold standards of Cochrane (Green-Hennessy, 2013) there is now increasing reliance on systematic reviews to create evidence (e.g. NICE) and make rationing decisions (Williams, 2013) with regard to which interventions are recommended and invested in. Furthermore, considering the large increase in the number of qualitative studies published (Atkins et al 2008; Britten, 2011) there is now an increasing need to synthesise those literatures (Britten, 2011) in the interest of merging knowledge and advancing theory (Britten, 2011). Thus the science of synthesising qualitative research has developed. Syntheses are seen as increasingly important and are used to inform the development of both health care interventions and service development (Finfgeld-Connett, 2016; Heslehurst et al 2014; Mann & Gooberman-Hill, 2011) as well as obtain a more comprehensive view from both a HP and patient perspective (Heslehurst et al 2014; Garip & Yardley, 2011; Tong et al 2012).

4.4.1. Rationale for conducting a synthesis

Synthesising qualitative research is now viewed as a valuable source of research for public health (Dixon-Woods & Fitzpatrick, 2001; Thomas & Harden 2008) and its efficacy has been demonstrated in different fields (Campbell et al 2003; Pound et al 2005). In health care, quantitative study designs are sometimes unable to uncover data captured by qualitative designs (Garip & Yardley, 2011). Research suggests that information is needed on how interventions are perceived by clinicians and patients (Korhonen et al 2012) and reasons why people adhere to lifestyle choices (Korhonen et al 2012). The synthesis of qualitative data provides knowledge that is essential to evidence based research (Korhonen et al 2012) “enabling communication to policy makers” (Noblit & Hare, 1988 p.14). Furthermore, the inclusion of multiple studies enables theory generation and provides an opportunity to “build up a cumulative evidence base comparable to the growing evidence of quantitative research” (Britten, 2011, p. 388).

Different methods used to synthesise qualitative research

A number of methods have been used to synthesise qualitative research data. Methods most frequently used include critical interpretive synthesis, grounded theory synthesis, meta-
interpretation, meta-study, meta-summary, qualitative cross-case analysis, meta-ethnography and thematic synthesis (Ring et al 2011). Two of the most commonly used methods in health research are meta-ethnography and thematic synthesis (Campbell et al 2012). A brief overview of each method will be given with particular emphasis on thematic synthesis, and justification for its selection for the work reported in Chapter 5.

**Meta-ethnography**

Meta-ethnography has gained in popularity over recent years and is perceived as a key method for synthesising qualitative research (Ring et al 2011). This method is “interpretative rather than aggregative” (Noblit & Hare, 1988, p.11) and provides “a uniquely interpretive approach to evidence synthesis” (Noblit & Hare, 1988, p.12). Latterly, a substantial number of papers have been published using meta-ethnography in areas such as medication (Borg Xuereb et al 2012; Malpass et al 2009), palliative care (Fosse et al 2014), health behaviour change interventions (Taylor et al 2011) and fibromyalgia (Sim & Madden, 2008). Although meta-ethnography is perceived as an effective mode of qualitative synthesis (Campbell et al 2012) several weaknesses have been identified (Atkins et al 2008; Doyle, 2003). Firstly, it is difficult for researchers to apply as there is no ‘standardised approach’ or “routinized way” (Campbell et al 2012 p. iv; Dixon-Woods et al 2005; Doyle, 2003). This is supported by Atkins et al (2008) who suggests the steps within meta-ethnography are not transparent and the process of reciprocal translation is unclear. Finally, meta-ethnography focuses primarily on synthesis and offers little information regarding critical appraisal (Dixon-Woods et al 2005).

**Why Thematic Synthesis?**

The method selected was thematic synthesis (Thomas & Harden, 2008). This technique shares principles with both grounded theory and meta-ethnography (Papadopoulou et al 2013; Ring et al 2011) and has been used to investigate a diverse range of issues within health care such as nurses’ experiences of clinical placements, patients’ views of self-management, treatment decisions with chronic kidney disease and the experience of acute leukaemia (Browne et al 2015, Dwarswaard et al 2015, Morton et al 2010; Papadopoulou et al 2013). A fundamental strength of this approach is the ability to synthesise and generate conclusions from a diverse range of studies with unique methodologies (Browne et al 2015; Thomas & Harden, 2008) as well as familiarising policy makers and health care practice (Papadopoulou et al 2013). It was therefore seen as an appropriate method to elucidate new understanding of physicians’
experiences of discussing weight management with patients during routine clinical consultations and gain a more coherent understanding of physician perspectives.

4.4.2. Rationale for conducting semi-structured interviews for data generation

Within the scope of qualitative research there are a range of methods available such as observation, ethnography, focus groups, structured and unstructured/in depth interviews. For the purpose of this section a brief overview of all of these will be provided with reasons why they were not deemed appropriate. However the primary focus will be semi-structured interviews and their suitability to the research question.

Observation

Observation is perceived as pivotal within qualitative research (Morgan et al 2016; Murphy & Dingwall, 2007; Walshe et al 2011) often providing in depth information within the social context (Mehl et al 2012). It is a key feature of ethnographic and anthropological research (Peters, 2010). Naturalistic observation provides researchers with the opportunity to gain a window of insight into the wider context in addition to unconscious behaviours that participants may be unacquainted with (Morgan et al 2016). Furthermore, they may provide unique insights that are not always captured within traditional self-report methods such as interviews (Mehl et al 2012; Sogoric et al 2005). Prior research has employed naturalistic observations to explore areas such as the doctor-patient relationship and clinical positioning (Williams et al 2015) patient–provider interaction within pharmacy clinics (Koster et al, 2015), primary care (Oandasan et al 2009) and brain injury rehabilitation (Kontos et al 2012). However, it is not always made explicit how researchers collect data from naturalistic studies (Mehl et al 2012) and there is a paucity of toolkits available for the qualitative researcher (Mehl et al 2012). In addition, the focus of the empirical research in this thesis is on the views and experiences of individual HPs and patients rather than focusing on the wider context such as focusing on the location, structure and the type of interactions (Oandasan et al 2009; Walshe et al 2011). Finally, total immersion within the setting is often required (Walshe et al 2011) this is not always possible for a lone researcher (Mehl et al 2012) with both a restricted time period (Morgan et al 2016) and budget (Morgan et al 2016). Our intention also was to capture a variety of views and experiences from HPs within both primary and secondary care. Engaging gatekeepers in a multitude of settings (Walshe et al 2011) and negotiating ethical approval would have provided key challenges (Morgan et al 2016).
Ethnography

Ethnographic research or ethnography is the study of people in their natural surroundings or ‘field’ (Brewer, 2000) and has been prevalent within medical education within the last half century (Atkinson & Pugsley, 2005; Pope, 2005). The researcher “participates directly in the setting if not also the activities collecting data in a systematic manner” (Brewer, 2000 p.6). The terms participant observation, ethnography and fieldwork are similar in meaning and normally involve the researcher spending significant amounts of time within the setting (Koenig et al 2015; Pope, 2005), observing relationships and interacting with the chosen research population to gain a deeper understanding of how they view their world (Pope, 2005; Reeves et al 2008). Ethnography typically involves small numbers of participants or case studies examining one participant only (Reeves et al 2008). Recently, ethnographic methods have been used to explore a diverse range of issues within health research such as knowledge management (Gabbay & May, 2004) health promotion (Cook, 2005), nurses’ stress (McGibbon et al 2010) organisational structures in long term care (Caspar et al 2016) and the doctor-patient relationship (Colmenares-Roa et al 2015). However, there were a number of factors why this method may have been challenging when researching HPs views and experiences. Firstly, evidence suggests that ethnographic research often relies on lengthy fieldwork, exploring views and experiences and observing actions over extensive periods of time (Atkinson & Pugsley, 2005; Murphy & Dingwall, 2007; Rashid et al 2015). This is pivotal to ethnographic research (Rashid et al 2015). However, we aimed to gain the views and experiences of a diverse range of HPs throughout the North West of England. This would have provided challenges for one lone researcher with a restricted time period. Moreover HPs are often restricted by time barriers making it unlikely that HPs would have the time to discuss research over a long time period (Reeves et al 2008).

Focus groups

Focus groups are now considered both a principal and popular method within qualitative health research (Clavering & McLaughlin, 2007; Duggleby, 2005). Focus groups capture a diverse range of views whilst generating both unique and meaningful discussions that are distinct from individual interviews (Frazier et al 2010). They also provide a useful opportunity to explore and observe group dynamics and debates in comparison to individual interviews (Duggleby, 2005). The health professional study (Chapter 6) explored the views and
experiences of a range of HPs discussing weight with their patients. We know this is a sensitive topic (Kushner, 2011). Evidence suggests that focus groups may not capture sensitive data as effectively as interviews (Kaplowitz, 2000) hence they may not be the obvious medium for discussing sensitive topics (Wellings et al 2000). Furthermore, research suggests that visual anonymity may increase the likelihood that participants will discuss sensitive topics (Frazier et al 2010). This is significant as we gave the HPs in our study the option of telephone interviews. In addition, evidence suggests that HPs may be less likely to disclose their views in front of colleagues (Almblad et al 2016) especially when there is a hierarchical difference between professions for example doctors and nurses (Jeffe et al 2004). Furthermore, interviews are more likely to capture a greater variety of perspectives (Palmer et al 2016). A focus group approach also poses logistical problems (Clavering & McLoughlin, 2007). For example the HP study (Chapter 6) explored a heterogeneous sample of HPs such as nurses, rheumatologists, physiotherapists and general practitioners. This would have been a challenging sample to bring together and participants may have been invited because of power imbalances between professions (Tang et al 2013). There are also confidentiality issues of interviewing HPs from the same organization (Jordan et al 2007). In addition, focus groups are most useful when data about interactions are of interest (Barbour, 2005). This could have been potentially interesting, in particular around staff interactions when discussing patients with obesity, as multidisciplinary working is important in KO (Arokoski, 2014). However, the health professional study aimed to explore the experiences of individual HPs rather than a group perspective (Rosenthal, 2016) so this method was not chosen, as there were too many disadvantages.

Structured interviews

Essentially a quantitative research method, structured interviews are very similar to questionnaires (Wilson, 2013). The researcher administers a uniform sequence of questions to each participant (Gill et al 2008; Wilson, 2013). They are perceived as useful when collecting similar data from a large data set (Wilson, 2013). Consequently there is little opportunity to probe and explore further (Gill et al 2008). Furthermore they are normally used to assess the level of knowledge from a specific data set rather than the views and experiences of individual participants (Wilson, 2013). The HP study (Chapter 6) aimed to explore the experiences of HPs when discussing weight management with KO patients thus structured interviews were perceived as ineffectual as they provide little depth and scope for further exploration (Gill et al 2008). Furthermore, conducting structured interviews provides a challenging environment for
the interviewer as it allows little opportunity to develop rapport with the interviewer (Wilson, 2013). Research suggests this rapport building process is paramount as it allows the researcher to develop both trust and respect with the participant. This is essential for facilitating disclosure around sensitive areas such as weight (Cowles, 1988; Dickson-Swift et al 2007).

**Unstructured/in depth interviews**

Unstructured interviews are often defined as a “guided conversation” (Dicicco-Bloom & Crabtree, 2006) that produce rich data (Corbin & Morse, 2003). They provide an opportunity for the interviewee to discuss “their story” without interruption from the interviewer (Morse, 2015 p. 1218). Unstructured interviews present an opportunity for the researcher to gain subject knowledge and are often utilised when there is a paucity of research about the topic in question (Morse, 2015). Prior research suggests both the benefits and drawbacks of structured interviews when discussing sensitive topics (Corbin & Morse, 2003). For example, Corbin & Morse (2003) suggest that discussing sensitive topics within unstructured interviews is often therapeutic for the research participant. Conversely, evidence suggests that unstructured interviews may equip the interviewees with a level of control and freedom that ultimately causes harm, especially when discussing sensitive topics (Lee & Ranzetti,1990). The patient study (Chapter 7) sought to explore the views and experiences of HPs when discussing weight with patients. Evidence suggests that unstructured interviews are more suitable for investigating themes rather than questions (Wilson, 2013) suggesting a lack of suitability. Furthermore unstructured interviews are often lengthy, sometimes up to 2 hours (Wilson, 2013). The HPs in our research were restricted by time so this method would have been challenging regarding recruitment. Finally, unstructured interviews are often used when there is a paucity of knowledge in the field (Wilson, 2013). Our research was guided by the plethora of research investigating HPs views of discussing weight management (Blackburn et al 2015; Dutton et al 2013; Heintze et al 2010).

**Semi structured interviews**

The HP study in this thesis is a qualitative interview study examining HPs’ experiences of discussing weight management with overweight/obese knee osteoarthritis patients (see Chapter 6). The patient study aimed to explore the views and experiences of patients with knee osteoarthritis in talking about weight with HPs (see Chapter 7). The rationale for electing these methods will now be discussed.
In contrast to unstructured interviews which are more “guided conversations” (Whiting, 2008 p. 36) and structured interviews which consist of a set of questions with little or no deviation (Gill et al 2008), semi-structured interviews generally consist of a set of predetermined interview questions, which contain verbal prompts (Dicicco-Bloom & Crabtree, 2006; Wilson, 2013) providing both guidance and flexibility (Gill et al 2008; Wilson, 2013). These verbal prompts or prods usually instigate further dialogue (Whiting, 2008). Semi-structured interviews are ideally suited to capturing novel themes or issues and are generally used when the researcher has a certain level of knowledge in the research area (Wilson, 2013).

Semi-structured interviews are a key and powerful method within health research (Gill et al 2008; Hewitt, 2007; Rabionet, 2011; Whiting, 2008) and are one of the most popular and well-utilised methods of data collection within qualitative research (Dicicco-Bloom & Crabtree, 2006; Gill et al 2008; Mazanderani & Paparini, 2015; Whiting, 2008). The researcher is equipped with an interview topic guide, which enables both the researcher and participant the flexibility to explore topics further (Britten, 1995; Gill et al 2008). Semi-structured interviews have been used to explore patients’ views on a number of sensitive topics such as experiences of life with HIV (Mazanderani & Paparini, 2015), sexuality (Fuzzell et al 2016), bariatric surgery (Robertson et al 2016), living with chronic musculoskeletal pain (Jelin et al 2012) and emergency contraception (Michie et al 2016). Furthermore, they have also been used to explore HPs’ views and experiences in a multitude of health care settings (Bajramovic et al 2004; Gibbins et al 2015). They provide the researcher with the option to build rapport (Mizock et al 2011), which is paramount when discussing sensitive topics (Barriball & While, 1994).

One key advantage of employing face-to-face interviews is the opportunity provided to establish and build rapport with the participant (Block & Erskine, 2012). Researchers have a period of time before the interview commences to discuss any fears that the interviewee may have and to establish a sense of trust within the researcher – participant relationship (Mann et al 2000). Weight management is a sensitive topic so it was advantageous that the researcher had the opportunity to connect at this stage as this can encourage the participant to provide richer detail (Pridemore et al 2005). Additionally, the researcher is able to capture both verbal and non-verbal behaviour (Burnard, 1994). Cues from factors such as body language may
provide the interviewer with an increased level of insight beyond the verbal answer (Burnard, 1994; Opdenakker, 2006).

Although patients’ experiences of discussing weight management have been explored previously (Potter et al 2001) conversations in relation to knee osteoarthritis have not. Semi-structured interviews were therefore appropriate as through probing they provide increased flexibility for the researcher to explore topics further (Koskei & Simiyu, 2015; Silverman, 2015; Wilson, 2013). Furthermore, all the semi-structured interviews were face-to-face with the researcher. Evidence suggests that this encourages receptivity in addition to richness of data (Pridemore et al 2005).

Furthermore semi-structured interviews provide an increased opportunity for rapport development (Leech, 2002). Evidence suggests that the relationship between the researcher and the participant is fundamental to the data (Nicolson, 2003). Moreover, weight management is a sensitive topic (Kushner, 2011) and knee osteoarthritis is a painful condition (Hendry et al 2006) with limited treatment options (Carmona-Teres et al 2015) so establishment of rapport and trust between the researcher and participant was perceived as paramount (Dickson-Swift et al 2007; Gill et al 2008). In addition, semi-structured interviews enable the researcher to identify all the nuances within the interview it also allows the interviewer to see visual cues and to comfort the participant if distressed (Block & Erskine, 2012).

Advantages and disadvantages of the layperson-health professional interview

Interviewing HPs from the perspective of a layperson provided both benefits and challenges for the researcher. For example, the HPs in study 2 (Chapter 6) appeared comfortable disclosing information to the researcher and many of the interviews provided rich data. Evidence suggests that HPs may feel more comfortable opening up to a layperson about their professional practice helping to build levels of trust (Coar & Sim, 2009). Conversely, Chew-Graham et al (2002) reported that when the researcher was a fellow clinician who was familiar to the interviewee both ease of access and richness of data were improved. Moreover the professional status of the interviewer as social scientist or fellow clinician influenced the content of the interview significantly (Chew-Graham et al 2002). Furthermore, as a researcher you are able to take a naïve stance and encourage HPs to elaborate on key areas of interest (Coar & Sim, 2009) as well as appearing less threatening than a fellow clinician (Coar & Sim,
This is particularly useful if asking HPs to discuss their experiences of addressing the sensitive topic of weight with patients as it possible they perceived this interaction with a layperson as less an examination thus encouraging disclosure (Coar & Sim, 2009).

One of the key challenges for the researcher was the issue of time. HPs often have restricted schedules and interviews are time consuming; making them difficult to schedule and organise (Burnard, 1994). In order to counteract this, the researcher must be flexible in their approach and schedule interviews to suit the needs of the HP for example in breaks or after work. The researcher was happy to interview the HP at home or at work. Interviews at home are often more relaxed and the participant may feel less restricted by time constraints (Burnard, 1994).

4.4.3 Telephone versus face-to-face interviews

The HP study (Chapter 6) sought to explore health professionals’ experiences of discussing weight management with overweight knee osteoarthritis patients. HPs were able to select either face-to-face interviews or telephone interviews, depending on preference and convenience. For a number of reasons we offered health professionals the option of either telephone or face-to-face semi structured interviews. A number of factors prompted this decision. Firstly, research evidence suggests that health professionals in both primary and secondary care are time restricted (McMullan, 2006) so providing health professionals with the opportunity to be interviewed at home or work increased flexibility. Secondly, the study aimed to elucidate a range of views from a heterogeneous sample of health professionals across a large demographic region, the North West of England. Telephone interviews enable researchers to reach a wide geographical area without the costs and time of extensive travel.

Although telephone interviews have been used more frequently in quantitative research as opposed to qualitative enquiry, evidence suggests a surge of popularity within qualitative research (Block & Erskine, 2012; Carr & Worth, 2001; Drabble et al 2016; Vogl, 2013), especially health care research (Smith, 2005). However, some researchers have argued that caution should be taken over data generated through telephone compared with face-to-face interviews (Block & Erskine, 2012; Novick, 2008). For example, we know that effective interviewers are those that are able to engage the participant, build rapport and encourage sharing of their ideas with minimal prompting, allowing the data (and ideas) to come from the participant not the researcher. Nonverbal behaviours, such as maintaining eye contact is an effective way of achieving this and this is difficult to achieve on the phone (Irving et al 2012).
There are a number of strengths and weaknesses in relation to telephone interviews (Musselwhite et al 2007) and these will now be discussed.

**Cost and time**

One of the key strengths of telephone interviews is their relative low cost (Block & Erskine, 2012; Burnard, 1994; Drabble et al 2016; Vogl, 2013) and time efficiency (Block & Erskine 2012; Sturges & Hanrahan, 2004; Vogl, 2013). Primarily, in comparison to face-to-face interviews, researchers are able to save on travel time and expenses (Denscombe 2002) whilst conducting an increased number of interviews in a set period of time (Block & Erskine, 2012;). Furthermore, in study three (Chapter 7) the researcher experienced multiple cancellations after travelling a significant distance to interview a participant, telephone interviews are useful as they avoid this pitfall (De Vaus, 2013). Using telephone interviews also enables the researcher, especially when they are working alone the opportunity to gain a wider geographical distribution of participants (Block & Erskine 2012; Drabble et al 2016; Shepherd et al 2011; Sturges & Hanrahan, 2004; Vogl, 2013).

**Richness of data and researching sensitive topics**

One of the key debates in selecting face-to-face interviews versus phone interviews centers around the richness of data that is generated. Although there is evidence that data gathered from telephone interviews may lack richness in comparison to face-to-face interviews (Herzog & Rodgers, 1988; Irvine et al 2012) several studies demonstrate that telephone interviews can elicit rich data, especially regarding sensitive topics in health research such as cancer and drug abuse (Aktan et al 1997; Drabble et al 2016; Novick, 2008). In addition, telephone interviews were used to elucidate reasons for missed appointments in patients with hepatitis C. The researchers concluded that a real ‘depth of insight’ into clients’ experiences was obtained (Poll et al 2016 p. 20). This is in line with other studies that have reported high quality data (Trier-Bieniek, 2012; Vogl, 2013). They have also been used to explore individual’s views of weight management: Lawson and Wardle (2013) conducted qualitative telephone interviews with women regarding weight management and concluded that the research gained a rich insight into the views of women.

An important feature of telephone interviews is that they can take place in a familiar context for the participant, which may help when discussing personal topics (Trier-Bieniek, 2012). However, it is still argued that face-to-face interviews provide researchers with more
opportunities to connect with the participant, build rapport and trust and allow participants to check the authenticity of the researcher (Vogl, 2013). For example one study suggested that patients felt happier discussing psychiatric symptoms during face-to-face interviews rather than over the phone and were happier to express a desire for treatment during face-to-face consultations (Pridemore et al 2005). Hence the decision to choose telephone versus face to face may ultimately be a pragmatic choice.

Considering the use of both face to face and telephone interview within this thesis this section considers some key arguments around factors that are considered central to the mode of delivery.


1. Taking notes

Taking notes, good practice that can benefit analysis (Gill et al 2008), can detract from this. Moreover, during face-to-face interviews the participant may be distracted by the actions of the interviewer (Drabble et al 2016) whereas during telephone interviews it is easer to take notes surreptitiously or to refer to the interview schedule for guidance (Carr & Worth 2001; Smith, 2005).

2. Personal Safety

Related to the issue of anonymity is the aspect of researcher safety. During face-to face-interviews researchers are often faced with interviewing strangers or entering unfamiliar situations and locations that can be daunting or potentially threatening (Sturges & Hanrahan, 2004). Telephone interviews offer increased safety for the researcher (Smith, 2005; Sturges & Hanrahan, 2004; Trier-Bieniek, 2012) and the participant (Marcus and Crane, 1986). The issue of safety is sometimes neglected (Sturges & Hanrahan, 2004) which is concerning as this may be pertinent for sole male or female workers exploring very sensitive or dangerous topics.

3. Distance from the participant

As opposed to face-to-face interviews, telephone interviews provide increased anonymity and distance between the researcher and the participant. There is evidence that this distance reduces participant self-consciousness thus encouraging greater freedom of speech (Trier-Bieniek, 2012) and openness (Ahern et al 2013). For example Shepherd et al (2011) explored
the views of oncologists regarding shared decision making with their patients and suggested that the anonymity provided by telephone interviews promoted richness of the data and reduced social desirability bias. Several studies also suggest that participants are more likely to discuss personal information and admit rule breaking behaviour during telephone interviews as opposed to face to face interviews (Block & Erskine, 2012; Novick, 2008).

4. Balance of Power

Telephone interviews may provide a greater balance of power for the researcher and the participant. For example when interviews are face to face the power dynamics may affect the researcher-participant relationship. Telephone interviews may allow the participant greater scope for decision making such as when they wish to speak or interrupt (Trier-Bieniek, 2012). It therefore suggests that telephone interviews may be applicable when the researcher is in a senior position to the participant.

5. Greater clarity needed

Despite the apparent benefits of anonymity for both the researcher and the participant telephone interviews may provide additional challenges. Literature suggests that without the benefits of non-verbal cues (Lawson & Wardle 2013; Vogl, 2013) there is increasing pressure on the interviewer to deliver interview questions in an articulate and precise manner (Burnard, 1994). This is particularly important if the participant requires further clarification as it relies on the researchers ability to be both clear and concise (Drabble et al 2016).

6. Disparity in length

Whilst length of interviews (a proxy measure for quantity of data) is not a marker of quality or richness of data generated, some concern has been made that telephone interviews may be shorter in length than face-to-face (Drabble et a 2016). This finding is, however, not consistent, and other studies have reported no differences in duration or depth (Sturges & Hanrahan, 2004; Vogl, 2013). The HP study (Chapter 6) in this thesis included telephone and face-to-face interviews, and a check was made as to whether interview lengths differed. However there was no significant difference in the interview length between telephone and face-to-face interviews.
7. Rapport

An integral part of the researcher-participant relationship is the building of rapport, although this can never be assured (Trier-Bieniek, 2012). During face-to-face interviews researchers have more time to establish a connection with the participant promoting trust and establishing a connection (Drabble et al 2016). However due to time constraints and the lack of non-verbal communication rapport building on the telephone is more challenging (Burnard, 1994; Drabble et al 2016; Trier Bieniek, 2012) and may affect the researcher-participant relationship (Block & Erskine, 2012). Furthermore, missed opportunities to establish rapport may affect the development of trust and the level of detail collected from the interview (Block & Erskine, 2012). For example literature suggests that face-to-face contact is key to establishing trust (Mann et al 2000) so without this participants may find phone pauses harder to manage and provide less depth in their answers (Block & Erskine, 2012).

4.4.4. Rationale for conducting thematic analysis

Qualitative research in health care aims to capture the views and perspectives of both HPs and patients (Tong et al 2007) and consequently gain a deeper understanding of the topic in question (Vaismoradi et al 2013). It is imperative that the researcher elects the appropriate method for their research question (Vaismoradi et al 2013). I elected to use thematic analysis (TA) as a method for both the HP study and the patient study (Chapter 6 & 7). Information about choice of methods is provided in each empirical chapter, however, here an overview of TA and a rationale for its use is presented.

TA has been defined as “a method for identifying, analysing and reporting patterns (themes) within data” (Braun & Clarke, 2006 p. 79). However, evidence suggests that it may often surpass the research topic and provide interpretation beyond the research question (Boyatzis, 1998). The rationale for using TA is based on a number of factors. Firstly, TA is ubiquitous within psychology (Braun & Clarke, 2006) and health care research (Braun & Clark, 2006). In both study 2 and 3 the research aimed to capture the views and experiences of both HPs and patients, respectively, when discussing weight management. Evidence suggests that TA is ideally suited to questions that explore perspectives and narratives (Vaismoradi et al 2013) and identifying “common threads” throughout the data (Vaismoradi et al 2013 p. 400). Secondly, unlike other methods such as discourse analysis (Potter & Wetherell, 1987) or grounded theory (Strauss & Corbin, 1998), TA provides researchers with a clear guide of the specific stages (Vaismoradi et al 2013). For example Braun & Clarke (2006) provide a transparent
guide for the researcher stipulating 6 key stages (see Table 4.2) and providing guidance for each one (Vaismoradi et al 2013). Furthermore TA did not restrict the researcher to any prior theoretical framework (Braun & Clarke, 2006) this is in contrast to interpretative phenomenological analysis, discourse analysis (Potter & Wetherell, 1987) or narrative analysis (Murray, 2000) who have their own distinct interpretations of the method in question (Braun & Clarke, 2006).

Table 4.2. Key phases of TA taken from (Braun & Clarke, 2006 p.87)

<table>
<thead>
<tr>
<th>Phase</th>
<th>Description of the process</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Familiarizing yourself with the data</td>
<td>Transcribing data, reading and re-reading the data and noting down initial ideas</td>
</tr>
<tr>
<td>2. Generating initial codes</td>
<td>Coding interesting features of the data in a systematic across the entire data set. Collating data relevant to each code.</td>
</tr>
<tr>
<td>3. Searching for themes</td>
<td>Collating codes into potential themes, gathering all data relevant to each theme.</td>
</tr>
<tr>
<td>4. Reviewing themes</td>
<td>Checking if the themes work in relation to the coded extracts &amp; entire data set.</td>
</tr>
<tr>
<td>5. Defining and naming themes</td>
<td>Ongoing analysis to refine the specifics of each theme &amp; the overall story.</td>
</tr>
<tr>
<td>6. Producing the report</td>
<td>Selection of vivid extract examples, final analysis of selected abstracts. Producing a report.</td>
</tr>
</tbody>
</table>

4.5. Ethical Approvals and Data Management

4.5.1. Ethical issues surrounding interviews

Qualitative research raises ethical challenges that are distinct from quantitative research (Eide & Kahn, 2008; Orb et al 2000). Ethics is associated with doing good and avoiding harm (Orb et al 2000) and should be of fundamental concern to the researcher throughout the research process (Dearnley, 2005). When conducting quantitative research the researcher is often perceived as remaining distant from the participant in a quest for scientific objectivity (Wiesenfeld, 2000). However during qualitative research the researcher - participant
relationship is generally fundamental (Orb et al 2000) to the study of human narratives, experiences and views (Eide & Khan, 2008; Orb et al 2000). Despite the emphasis that is placed on the researcher-participant relationship during interviews (Dickson-Swift et al 2007) discussions surrounding ethical issues are often neglected within research journals (Richards & Schwartz, 2002). Some of the most pertinent ethical issues that arose from conducting qualitative research interviews with both health professionals and patients and my efforts to minimise these will now be discussed.

Reducing the risk of harm to the participant and to the interviewer

Throughout the research process the researcher has a duty to protect the participant from harm at all times and weigh up the benefits for the participants against the potential risks (Orb et al 2000). Moreover it is the researcher’s duty to identify the potential pitfalls when researching sensitive topics and to put in place measures to address these (Coyle & Wright, 1996). In both the HP study and patient study (Chapter 6 & 7) the researcher obtained ethical approval from the University of Manchester (ref/14070) (see Appendix 1) and the National Health Research Ethics Committee (Newcastle and North Tyneside 2 REF: 15/NE/0139) (see Appendix 11) respectively.

In the HP study (Chapter 6) the researcher conducted both telephone and face-to-face interviews. For face-to-face interviews both written and verbal informed consent was obtained prior to the interview (Richards & Schwartz, 2002; Ringheim, 1995) and when interviews were conducted over the telephone written consent forms were signed and sent to the researcher by post prior to the interview. However, before the telephone interviews commenced the researcher reiterated the participant’s right to withdraw and obtained verbal consent. Evidence suggests that it is important for the researcher to reinforce the participants right to withdraw throughout the research process as it is often difficult to anticipate what data will emerge (Dicicco-Bloom & Crabtree, 2006). As all interviews with patients (Chapter 7) were conducted face-to-face, both written and verbal consent was obtained prior to the interview and the researcher reiterated the participant’s right to withdraw.

The topic (patients’ views and experiences of discussing weight management) was a sensitive area (Kushner, 2011) hence the act of listening is vital (Dickson-Swift et al 2007; Ribbens, 1989). However, evidence suggests that active listening (defined as both verbal and nonverbal
behaviours that display empathy) (Bodie et al 2015) from a researcher can raise negative emotions (Dicicco-Bloom & Crabtree, 2006) as participants may have had little opportunity to discuss the issues raised in the past. Data presented in Chapter 7 suggest participants were able to discuss personal information on this sensitive topic and the researcher was reassured that participants were not unduly inhibited by the subject matter. Indeed evidence is increasingly suggesting that participants report that discussing highly sensitive information within qualitative interviews has therapeutic benefits and suggested they would have benefitted from a more lengthy discussion (Gouda et al 2016; Richards & Emslie, 2000; Townsend et al 2011). Nevertheless potential existed for discomfort and steps were put in place to reduce these. For example, all participants were debriefed at the end of the interview and time was set aside in case participants wished to discuss issues of concern that were raised within the interview. This is perceived as good practice (Coyle & Wright, 1996). Furthermore, all participants were given a participant information sheet which contained the contact details of relevant organisations to contact if they desired thus ensuring appropriate information was available (Richards & Schwartz, 2002).

In both empirical studies participants were asked if they would like to discuss any issues pertaining to the interview at the beginning and the end. In addition, participants were given a detailed participant information sheet (see Appendix 3 and 17). This outlined the key objectives of the research, the types of questions to be addressed and information about data management. As mentioned previously much qualitative research entails face-to-face contact with participants (Orb et al 2000).

However, evidence suggests that little attention has focused on researcher vulnerability within the research process (Dickson-Swift et al 2007). For example, discussing sensitive topics may also have consequences for the researcher as well as the participants (Dickson-Swift et al 2007) so researchers need to be aware of the impact on the participant and themselves (Dickson-Swift et al 2007). Research suggests that interviewers should be debriefed especially when discussing sensitive topics with patients in order to protect themselves from emotional harm (Dickson-Swift et al 2007). Moreover this is an important aspect of their duty of care both to themselves and to their participants (Alty & Rodham, 1998). However, no specific guidelines exist suggesting the number of interviews researchers should undertake (McCosker et al 2001) although limiting interviews in order to protect themselves from harm has been advised. Access to regular supervision is one technique to address this issue which is used in
clinical practice (Kilminster & Jolly, 2000) though research into this for qualitative research practice is less well developed.

**Protecting the interviewee’s information/confidentiality**

Qualitative research produces an abundance of sensitive data (Richards & Schwartz, 2002) and protecting the confidentiality of the research participant should be paramount and perceived as pivotal to the research process (Richards & Schwartz, 2002). However, evidence suggests that true anonymity cannot be achieved with face-to-face interviews as the researcher is always able to connect the data to the participant (Burns & Grove, 2005). In order to protect anonymity the researcher stressed both verbally and via the participant information documents (see Appendix 3 and 17) that all information that may identify research participants will be removed at transcription. After transcription the audio recordings would be destroyed and only the researchers would have access to the transcribed data. All the transcripts would be stored in locked files and on encrypted files and only members of the research team would be able to match transcripts to consent forms. Moreover, any data presented in reports (including an unpublished thesis) arising from the studies, would be presented in such a way that participants could not be identified. Hence, although participant’s data was confidential rather than anonymous within the study team, published data would be anonymous.

**4.6. Qualitative methodologies and procedures**

The following section provides an overview of my reflections when conducting interviews with both HPs and patients. Details of the methods for each study are presented in each empirical chapter. However table 4.3 provides an overview of the design and methods for each study in turn. Field notes were taken for the duration of the interview period and the following observations are based on my reflections throughout the interview process.
Table 4.3. Summary of methods employed in each study within this thesis.

<table>
<thead>
<tr>
<th>Study</th>
<th>Aim</th>
<th>Participants</th>
<th>Recruitment procedure/interview setting</th>
<th>Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thematic Synthesis</td>
<td>To systematically search and synthesise physicians’ views &amp; experiences of discussing weight within a routine clinical consultation.</td>
<td>A thematic synthesis of ($N=16$) studies met the inclusion criteria.</td>
<td>N/A</td>
<td>16 studies were analysed using a thematic synthesis approach.</td>
</tr>
<tr>
<td>Health Professional (HP) Study</td>
<td>To explore HPs views &amp;experiences of discussing weight management with overweight/obese KO patients: a qualitative study.</td>
<td>Semi-structured interviews ($N=26$) with a range of HPs (Secondary care consultants, Dieticians, Nurses, Occupational therapists, General Practitioners and Physiotherapists). ($N=12$) face-to-face ($N=14$) telephone</td>
<td>HPs recruited via email &amp; phone from across the UK. All encountered overweight/obese patients with a diagnosis of KO</td>
<td>All interviews were transcribed &amp; analysed using thematic analysis.</td>
</tr>
<tr>
<td>Patient study</td>
<td>To investigate the views and experiences of patients with knee osteoarthritis in talking about weight with health professionals.</td>
<td>Face-to-face semi-structured interviews with patients who have knee osteoarthritis and a BMI of over 25 ($N=25$)</td>
<td>Patients were recruited from 3 NHS trusts across the UK. ($N=23$) conducted in patients home ($N=1$) on NHS premises ($N=1$) public place</td>
<td>All interviews were transcribed &amp; analysed using thematic analysis.</td>
</tr>
</tbody>
</table>
4.6.1. Reflections on interviewing health care professionals

An area sometimes overlooked in qualitative research is the dynamic between the interviewer and the participant (Richards & Emslie, 2000). When reporting, researchers tend to concentrate on factors within interviews such as duration and content rather than the relationship between the researcher and the participant (Richards & Emslie, 2000). Understandably, this may be the consequence of strict word limits stipulated by journals, however it can make critical evaluation of research studies challenging.

Reflexivity is an increasingly popular tool within qualitative research (Berger, 2015; Dicicco-Bloom & Crabtree, 2006; Fitzpatrick & Olson, 2015; Macbeth, 2001; Pillow, 2003). It is aligned with “ethical mindfulness” (Warin, 2011) and is perceived as “the process of a continual internal dialogue and critical self-evaluation of the researcher’s position” (Berger, 2015 p. 2). Reflexivity is considered important for many reasons. Firstly, the researcher is encouraged to reflect on factors that affect the research process such as interview location (Gagnon et al 2014), social position, gender, race, age together with their emotional responses to participants and the position of the interviewee (Berger, 2015; Dicicco-Bloom & Crabtree, 2006). Secondly, the process of reflexivity encourages the researcher to ‘self-critique’ thus increasing subjectivity within the research process (Pillow, 2003; Whiting, 2008). This is in line with research which suggests that reflexivity facilitates the auditability of qualitative research (Berger, 2015; Whiting, 2008). Finally, reflexivity is considered important when exploring sensitive topics (Dickson-swift et al 2007) as through this process the researcher adopts a “non-exploitative and compassionate” position towards their subject (Pillow, 2003 p.178).

The professional background of the researcher and the power balance

During initial interviews the researcher was asked to explain her professional background. It was then that the researcher began reflecting on how her professional identity as a teacher, a lifestyle coach in a weight management organisation and researcher with a health psychology background may have affected the interview process and consequently the data itself (Richards & Emslie, 2000).

Previous literature suggests that consideration of professional identity and its influence on data collection should be considered fundamental to the research process (Chew-Graham et al
2002; Coar & Sim, 2006). For example evidence suggests that clinicians may respond better to fellow clinicians and that data collected maybe richer than data collected from researchers with a non-clinical background (Chew-Graham et al 2002). Chew-Graham et al (2002) suggests that when clinicians are interviewed by their peers there is an equal power balance and level of understanding between both researchers which enables a real sense of safety and thus a richness of data. Further literature supports this and suggests that the perceived difference in levels of status between interviewers (for example one was a general practitioner and the other was a sociologist) affected the researcher-participant dynamic (Richards & Emslie, 2000). Conversely evidence suggests the strengths of interviewers with a non-clinical background. For example Coar & Sim (2006) suggest that health professionals may feel more comfortable responding to a non-clinician especially when the interview concerns aspects of their clinical practice and knowledge base. However, Coar & Sim (2006) suggest the presence of both a clinician and non-clinician during the data analysis process may help readdress the balance. However, “who respondents think you are affects what you get told” (Richards & Emslie, 2000 p. 75).

4.6.2. Reflections on interviewing patients discussing knee osteoarthritis and weight management

Weight management is a sensitive topic and patients experienced considerable levels of pain and discomfort with their condition compounded by reduced mobility and constant battles with their weight. One of the fundamental challenges of qualitative interviews is “sensitively capturing the multiple levels of a research encounter” (Riach, 2009; p. 356). For this reason it was the researchers intention to be reflexive so notes were kept throughout the interview period. This practice is now seen and encouraged within qualitative research (Drabble et al 2016; Hewitt, 2007; Meyrick, 2006; Ortlipp, 2008; Riach, 2009) and in particular when researching sensitive topics (Dickson-Swift et al 2007). These observations will form the basis of my reflections in this section.

The researcher-participant relationship and a sensitive topic

The interviewer had previous experience working within the field of weight management and was aware from the onset the delicate nature of this topic. Various issues around self-disclosure will now be discussed. Firstly, building rapport with the participant was key from the initial meeting (Ceglowski, 2000). This is viewed as particularly important when researching a sensitive topic as the researcher’s role is first and foremost to encourage
participants to discuss their views and experiences (Cartwright & Limandri, 1997; Dickson-Swift et al 2007) and to develop a deeper understanding of the topic in question (Cartwright & Limandri, 1997).

The researcher sometimes struggled with the level of self-disclosure that was appropriate with the participant but was eager to express empathy and discuss past experiences. However, they were mindful that the participants’ views and experiences were predominantly the key focus of the interview and this was conducted solely to put the participant at ease and to build rapport (Dickson –Swift et al 2007).

The researcher sometimes paused the interview to discuss issues with the participant and in more than half of the interviews spent a significant period of time talking to the participant both before and after the interview (Dickson-Swift et al 2007). Evidence suggests that self-disclosure is appropriate, especially for sensitive topics and is perceived as good practice (Dickson-Swift et al 2007). Furthermore it may bolster the researcher-participant relationship and enhance levels of trustworthiness from the participants’ perspective (Mizock et al 2011) as well as building rapport (Elmir et al 2011). The interviewer observed that in a significant number of interviews the participants were keen to discuss other issues not entirely related to the interview. This was discussed by Dickson-Swift (2007) who suggested that participants who chose to participate in research interviews may have less confidantes introducing an element of bias. On reflection the location of the interview was an important factor in the researcher –participant relationship. For example Gagnon et al (2014) suggests that location is pivotal to the research process. For example interviewers are often perceived as ‘guests’ within the participant’s home so may feel obliged to discuss issues that they would not otherwise discuss (Gagnon et al 2014).

**Gender issues**

During this study the female researcher interviewed both males and females. Evidence suggests that rapport building is more achievable with same gender interviews (Williams & Heikes, 1993) leading the researcher to contemplate the dynamics of a female researcher interviewing a male participant. Moreover this was pertinent as weight management is a sensitive topic and male participants may feel less comfortable or more self-conscious when discussing weight with a female researcher. There is a paucity of research investigating the
subject of gender within the researcher-participant relationship (Lee, 1997; Williams & Heikes, 1993). However, evidence suggests that men maybe more at ease with women than men as they are used to having women as their confidant (Williams & Heikes, 1993). Moreover Pini (2005) suggests that the traditional gender role of the female as an active listener showing sympathy and appreciation actively empowers the male in interviews.

**The presence of others**

Throughout the interview process the researcher conducted most face-to-face interviews in a private setting for the participant, namely the patients’ homes. Participants benefit from being interviewed in a comfortable environment such as their home; although this may contain distractions that are challenging for the researcher to control (Gill et al 2008). During two interviews the participants requested that other members of their family were present, namely their spouse and daughter. This dynamic is normally frowned upon within the research process (Reuband, 1992) and may affect the data collected (Sakellariou et al 2013). Consequently, the interviewer reflected on the ways in which this may have affected the data and the important rapport building process within the researcher-participant relationship (Dickson-Swift et al 2007). On reflection the participants appeared comfortable talking to the researcher when their family members were present however this may have affected how relaxed the researcher was for various reasons.

Firstly, the researcher believed that this may have affected her ability to build and maintain rapport with the research participant. Conducting face-to-face interviews when two people are present provides an intimate environment in which to build rapport and trust, thus the presence of a third person can provide an imbalance in the dynamics between the researcher and the participant.

Secondly, a third party present may affect the level of disclosure between the researcher and participant potentially altering both the progress and content of the interview. Evidence for this is contradictory for example research suggests that couples may provide more information when their partner is present (Beitin, 2008) although Pahl & Pahl (1971) found that couples were less likely to disclose when their partners were present. However there is some evidence that suggests that when the topic is not directly related to the person present the effects are minimal (Reuband,1992). Finally, couples may want to share their experience and need emotional support (Reuband, 1992).
4.7. Recruitment and sampling

4.7.1. Recruiting health professionals

In the HP study (Chapter 6) the researcher aimed to recruit a heterogeneous sample of HPs who were involved in the management of KO. Evidence suggests that KO patients are treated by a range of HPs along the disease trajectory so this was deemed appropriate (Hennell & Luqmani, 2008; Smink et al 2014). HPs targeted consisted of consultant rheumatologists, orthopaedic surgeons, general practitioners, nurses, dieticians, physiotherapists and occupational therapists. After gaining University of Manchester ethical approval (see Appendix 1) the recruitment phase commenced. Initially, the first aim was to establish a pilot interview with a general practitioner. This was for two reasons. Firstly, it was anticipated that this group of HPs would be the most challenging to recruit due to time pressures and workload (Bower et al 2009; Lyon-Maris et al 2015). Secondly, GPs are perceived as the gatekeepers of the NHS (Whitaker, 2016) and are often responsible for the initial management and referral to secondary care for most patients with KO (Gurden et al 2012). It was therefore anticipated that GPs may facilitate the identification of future respondents (Atkinson & Flint, 2001). After sending a number of email invitations (see Appendix 5) to general practitioners explaining the focus of the study one positive response was received and a face-to-face interview was arranged. The initial interview was a pilot interview with a general practitioner in the North West of England. After the interview the researcher discussed the recruitment strategy and the general practitioner agreed to discuss the research study within her practice and with colleagues from other sites. The researcher was then contacted by two general practitioners who agreed to take part in the study. A further three general practitioners were recruited via email. A total of six general practitioners were recruited from four separate sites. Four of these were telephone interviews and two were face-to-face. The researcher adopted a proactive approach to recruitment. For example, evidence suggests that participants are far more likely to respond to a researcher if they are approached directly by them (Hewison & Haines, 2006). Consequently, this may provide participants with the opportunity to ask questions and gain clarification and reassurance (Hewison & Haines, 2006). All HPs interviewed by telephone were provided with a Participant Information Sheet (see Appendix 3) prior to the study and AD ensured that a signed consent form (see Appendix 4) had been received prior to the interview. All face-to-face interviewees were issued a participant information sheet prior to interview (see Appendix 3) and a consent form (see Appendix 4) was completed.
**Snowball sampling**

The recruitment strategy identified seventeen participants via snowball sampling. Snowball sampling has been defined as “asking participants for recommendations of acquaintances who might qualify for participation, leading to “referral chains.” (Robinson, 2014 p. 37). Evidence suggests that snowball sampling is presumed appropriate with hard to reach populations (Atkinson & Flint, 2001; Sadler et al 2010) as well as being more time efficient and less costly (Sadler et al 2010). Furthermore snowball sampling may be particularly useful with participants such as ‘elite groups’ for example hospital consultants within the NHS (Harvey, 2011). Consequently, it builds trust and rapport within the researcher and raises the possibility that the participant will agree to participate (Sadler et al 2010). Conversely, snowball sampling has numerous disadvantages. Prior evidence suggests that research collected may be biased as the participants included in the sample may possess similar characteristics (Faugier & Sargeant, 1997; Magnani et al 2005). Finally there are ethical considerations that should be considered. For example, confidentiality may be challenged as there is a risk that other participants may be aware of certain characteristics that the source possesses (Sadler et al 2010). However, in the HP study (Chapter 6) this was minimal as the recommendation was purely based on the participant’s profession and their contact with KO patients rather than any inherent characteristics.

However, the rest of the participants agreed to take part via an initial phone call. The most challenging HPs to recruit were practice nurses. There may be a number of reasons for this. In many instances the researcher observed that the practice manager was the gatekeeper (Arber & Sawyer, 1985; Ward & McMurray, 2011) and on a number of occasions they suggested that they were not able to agree to research without permission from the general practitioners within the practice suggesting that practice nurses had less autonomy than other HPs (Wilson et al 2002). The researcher decided to adopt an alternative recruitment strategy and posted a notice on a nursing internet forum. One participant then contacted the researcher and agreed to be contacted.

4.7.2. Recruiting patients from clinical services

It was anticipated that most if not all, participants in the patient sample would be identified through NHS clinical services. Hence NHS approvals from a research committee and
individual services was required. It is stipulated that all participants identified from NHS services must gain NHS ethical approval for example “potential research participants identified from, or because of, their past or present use of the NHS (UK wide) or Adult Social Care services (Scotland & NI only), including participants recruited through these services as healthy controls. This includes services provided under contract with the private or voluntary sectors” (Health Research Authority, 2013 p. 2). This must be gained from Research Ethics Committees to “safeguard the rights, safety, dignity and well-being of people participating in research, as well as facilitating and promoting ethical research that is of potential benefit to participants, science and society” (Health Research Authority, 2013 p. 2).

Gaining ethical approval can be a challenging and extremely lengthy process (Hammersley, 2009) (see Figure 4.1 for process), and it has been argued that the National Health Service (NHS) ethical approval system has become increasingly complex and elongated (Ewing et al 2004; Stevenson et al 2015). Furthermore, the “methodological benchmarks” used by research ethics committees are frequently in conflict with qualitative research (Stevenson et al 2015 p. 1).

**Fig 4.1.** Flowchart to demonstrate the NHS ethical process for research with NHS patients.
1. Sponsorship from the University of Manchester

Subject to sponsorship review and occupational health clearance sponsorship was initially obtained from the University of Manchester (see Appendix 8). This enabled AD to continue the process and apply for research ethics approval from the NHS.

2. The National Institute for Health Research Clinical Research Network Coordinating Centre (NIHR) Portfolio

In order to facilitate the recruitment process AD was advised to obtain NIHR portfolio (a database which outlines clinical research studies in the United Kingdom). Eligibility is based on the research study fulfilling certain criteria such as the study should be peer reviewed and be beneficial to the NHS (Darbyshire, 2008). Obtaining NIHR portfolio has clear benefits for the researcher. Help is provided from both research nurses and HPs within the sites and the study is advertised throughout recruitment on a database that is accessible to both public and HPs (Bower et al 2009; Renton et al 2012).

3. Research Ethics Committee (REC) approval

Confirmation of REC approval was received from Newcastle and North Tyneside 2 NHS research authority (see Appendix 11). Further to this approval was obtained for a substantial amendment in March 2016 (see Appendix 12).

4. Research passport

AD was issued with a research passport from the University of Manchester (see Appendix 10) which was then validated by the trust.

5. Letter of access for trust

Recruitment began once AD had received a permission letter/letter of access to work on the study (see Appendix 13).

Initiating recruitment

Patients were recruited from 3 National Health Trusts across the North West of England but initial recruitment commenced at one site. After obtaining a letter of access from the trust (see Appendix 13 and 14) the recruitment phase commenced. AD had previous links with some of the HPs at the recruitment site (from the HP study) (Chapter 6) and in order to facilitate
recruitment AD was asked to conduct a short presentation (see Appendix 21) to key members of the rheumatology team (Consultant Rheumatologists, Physiotherapists, Nurses and Pharmacists). Within this AD provided a brief overview of the main objectives, the key inclusion and exclusion criteria and data collection methods.

**Recruitment strategy across all 3 sites**

Recruitment across all trusts was facilitated in a number of ways. Firstly, AD met the HP (research nurse, surgeon, physiotherapist) to exchange relevant documents, the participant information sheet (PIS) (see Appendix 17) and the consent to contact form (see Appendix 16). During clinical consultations the clinicians in the research team then discussed the research study with patients that fulfilled the inclusion criteria. If patients agreed to take part (after reading the PIS) a consent to contact form was completed. The clinician/s sent the consent to contact form to AD by post or notified AD via email and the consent to contact form was collected in person. The researcher effectively employed an opt-in system (Hewison & Haines, 2006) where the participant must consent to being contacted by a third party. However, prior evidence suggests that this may be a disadvantage as it may not include those participants from socioeconomically disadvantaged groups or more serious disease (Hewison & Haines, 2006).

Initially, recruitment within the trust was slow. Both AD and the research nurse discussed possible reasons for this and it was suggested that AD attend weekly rheumatology clinics facilitated by physiotherapists. The physiotherapist would then discuss the study with the patient and if they agreed and fulfilled the inclusion criteria AD would then approach the patient and discuss the study further. Patients then completed a consent to contact form and were contacted a number of days later thus allowing sufficient time to read the PIS. This proved an effective recruitment strategy.

Finally one research trust agreed that AD could attend weekly exercise sessions for knee osteoarthritis patients. At the beginning of the session AD conducted a short presentation providing a brief overview of the study and then discussed the research study with interested participants. Patients completed consent to contact forms and AD phoned them at a later stage to ask if they were still interested in taking part. 25 patients were recruited in total from three different trusts.
4.8. Chapter Summary

Qualitative research has much to offer the study of patient and HP experiences of sensitive topics such as weight and clinical interactions (Dickson-Swift et al 2009). Interviews are particularly well suited to data generation in this field, in particular semi-structured interviews that balance the scope for building rapport and enabling participants to take control of the information shared, whilst maintaining the topic (Mizock et al 2011). Two empirical qualitative studies (one with HPs and one with patients) were designed for this thesis and are presented in the next section, after a systematic review (ksee Table 4.3.) The detailed methods are presented within these chapters. Where possible face-to-face interviews were employed as they provide the maximum scope for rich data and placing participants at ease. However this was balanced with the pragmatics of recruiting busy clinicians over a wide geographical area, and telephone interviews were offered to health professionals as an alternative.
4.9. REFERENCES


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SECTION 3: EMPIRICAL RESEARCH
CHAPTER 5: Physicians’ experiences of discussing weight management within routine consultations: A systematic review and thematic synthesis.

5.1 Chapter overview

This section contains three empirical studies and each is written for publication. Chapter 5 presents a thematic synthesis investigating physicians’ views and experiences of discussing weight management within routine clinical consultations. Chapter 6 presents a qualitative interview study capturing health professionals’ experiences of discussing weight management with overweight knee osteoarthritis patients. Chapter 7 investigates the views and experiences of patients with knee osteoarthritis in talking about weight with health professionals. At the start of each chapter there will be an update on dissemination for each study.
Title: Physicians’ views and experiences of discussing weight management within routine clinical consultations: a thematic synthesis.

1. **Article type:** Review
2. **Journal:** Patient Education and Counseling
3. **Submission date:** June the 2nd 2016
4. **Submission status:** Revise and resubmit


**Note.** As this paper has been submitted for publication the formatting and layout of this article are in keeping with the guidelines for this journal. References will follow the Patient Education and Counseling style.
Physicians’ views and experiences of discussing weight management within routine clinical consultations: a thematic synthesis.

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5.2 Abstract

Objective: To systematically search and synthesise qualitative studies of physicians’ views and experiences of discussing weight management within a routine consultation.

Methods: A systematic search of four electronic databases identified 11,169 articles of which 16 studies met inclusion criteria. Quality was appraised using the Critical Appraisal Skills Programme tool and a thematic synthesis conducted of extracted data.

Results: Four analytical themes were found: (1) physicians’ pessimism about patients’ weight loss success (2) physicians’ feel hopeless and frustrated (3) the dual nature of the physician-patient relationship (4) who should take responsibility for weight management.

Conclusion: Despite clinical recommendations barriers remain during consultations between physicians and patients about weight management. Many of these barriers are potentially modifiable.

Practice implications: Improving training, providing clearer guidelines and placing a greater emphasis on collaboration between clinicians will help reduce barriers for both physicians and patients. In particular, more specialised training for physicians about weight management is needed to promote knowledge and skills in behaviour change techniques and ways to broach sensitive topics without damaging patient relationships.

Key words: weight management, patient-physician relationship, meta synthesis
5.3. Introduction

By 2030 nearly half the world’s adult population will be either overweight or obese [1]. In a significant number of European countries a fifth of adults are obese [2]. The UK has the second highest prevalence of obesity in the world [3] and by 2030, 11 million more adults are estimated to become obese [4]. Given the close association between obesity and many comorbid conditions (e.g. type 2 diabetes, cardiovascular diseases, and some forms of cancer [4]), the economic implications are substantial: by 2050 [6] and the global economic cost of obesity is an estimated 2 trillion dollars [1].

Doctors have access to wide segments of the population [13] offering key information [14] and are a trusted source of advice [15] so are well placed to address weight [10,16]. The National Institute for Health and Care Excellence (NICE) recognises the important role health care professionals (HCPs) can play in preventing disease [9,10,11,3] seeing obese patients before they develop further complications [12] and recommends they explore barriers to weight management during routine consultations [8].

HCPs also acknowledge their role regarding weight management [17, 18, 19] with nurses in primary care providing increasing levels of support to obese patients [18,20]. Furthermore, patients value receiving advice from physicians [21,22,16] with research suggesting that obese patients value a positive relationship with their family doctor and cite this as a key motivator to access care [23]. More specifically, patients would like increased input from their general practitioners (GPs) about weight management [24], particularly when conversations are embedded in existing health problems [25]. Advice received can increase motivation [26] and accelerate weight loss [27]. However, less than 40% of obese patients receive weight loss counselling [28,29] and fewer than 1% of GP consultations focus on weight management [16].

Barriers to giving weight management advice reported by physicians include insufficient confidence, knowledge and skills [30] and lack of time [30,31,32]. Additional factors include limited access to dieticians and nutritionists, [10] fear of breaking the doctor-patient relationship, [33] suboptimal training, [33, 26, 34] failure to acknowledge responsibility, [27] limited medical options for patients [35] and finding weight management unrewarding [36]. All these factors suggest potential for improvement [30, 32, 33].
Thus as obesity levels rise, physicians still report significant barriers to weight management with some research suggesting decreasing levels of weight loss advice [37]. There is therefore a pressing need to gain a deeper understanding of the factors influencing weight management counselling during clinical consultations [38].

The aim of this thematic synthesis is to explore physicians’ views and experiences of discussing weight management within routine clinical consultations. To our knowledge only one review has focused on communication about weight management and this is quantitative [118]. Qualitative research is ideally suited to exploring the realities of routine clinical consultations [9]. Furthermore, physicians may hold more complex views than have been previously identified using quantitative methods [40].

5.4. Methods
In health care, quantitative studies are sometimes unable to uncover data captured by qualitative designs. Thematic synthesis provides knowledge essential to evidence based research [41] and ensures the development of analytical and descriptive themes that exceed the primary studies [42] as well as being a valuable source of research for public health [43,44,45,41].

The study comprised four stages: (1) a systematic search of key databases, (2) record retrieval and screening for relevance, (3) critical appraisal, (4) thematic synthesis as described by Thomas and Harden (2008). This technique has been widely used by researchers to gain a deeper insight into HCPs’ experiences within the health care system [46,47].

5.4.1. Formulating the research question
To establish the synthesis framework, an interpretation of the population/problem of interest, intervention, comparison and outcome (PICO) framework [48] was used to find qualitative studies exploring physicians’ views and experiences of discussing weight management within routine consultations (see Table 5.1.). Previous researchers have used this strategy to identify qualitative papers [49,50,51]. Scoping exercises were used to refine search terms. At this stage, for purposes of manageability of data we decided to narrow our search to physicians only. The concluding set of PICO terms used in the search strategy is shown in Table 5.1. The PICO framework was used to organise the search strategy which was developed following scoping exercises.
Table 5.1. Search terms used

<table>
<thead>
<tr>
<th>Population</th>
<th>Intervention</th>
<th>Comparison</th>
<th>Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>GPs/patients</td>
<td>Weight management</td>
<td>None</td>
<td>Qualitative Research/or qualitative*.mp.</td>
</tr>
<tr>
<td>General pract*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GP*</td>
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<tr>
<td>Family pract*</td>
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<tr>
<td>Primary health care</td>
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<td></td>
<td></td>
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<tr>
<td>Doctor*</td>
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</tbody>
</table>

5.4.2. Inclusion and exclusion criteria

Inclusion criteria were: (i) studies used qualitative methods for recruitment strategies, data generation and analysis [52] (ii) studies elicited physicians’ views and experiences of discussing weight management within routine clinical consultations (iii) articles published in English (iv) the study explicitly focused on obesity (v) studies in which fifty per cent of the sample or more are physicians.
5.4.3. Data sources and search strategy

The search terms were combined using the Boolean logic terms “or” and “and”. Keywords were truncated and synonyms of key search terms were used to elicit all relevant studies. MeSH explode was used where possible (See Table 5.1.). Keywords were used such as: GP, patient, physician, general practitioner, doctor, exercise and qualitative. The database searches were executed from inception to May 2016 (see Table 5.2.) between August 2013 and May 2016.

Table 5.2. Databases searched

<table>
<thead>
<tr>
<th>Databases searched</th>
<th>Interface</th>
<th>Coverage</th>
</tr>
</thead>
<tbody>
<tr>
<td>PsycINFO</td>
<td>Ovid SP</td>
<td>1980 to May 2016</td>
</tr>
<tr>
<td>MEDLINE</td>
<td>Ovid SP</td>
<td>1980 to May 2016</td>
</tr>
<tr>
<td>EMBASE</td>
<td>Ovid SP</td>
<td>1980 to May 2016</td>
</tr>
<tr>
<td>CINAHL Plus</td>
<td>EBSCO</td>
<td>1988 to May 2016</td>
</tr>
</tbody>
</table>

5.4.4. Systematic identification of literature

Four electronic databases were searched: MEDLINE, EMBASE, CINAHL and PsycINFO from inception to May 2016. The search strategy identified 11,169 articles which were imported into an Endnote bibliographic database.

Following both electronic and manual elimination of duplicates abstracts were screened and if potentially relevant, full texts accessed. The initial screening questions were: ‘Did the research involve qualitative methods of data collection and analysis?’ and ‘is the research relevant to the synthesis topic?’. Sixteen papers were included in the final synthesis (see Figure 5.1.).
**Figure 5.1.** PRISMA Flow chart detailing the process of study identification

**Identification**
- MEDLINE 1980-2016: 3108 citations
- PsycINFO 1980-2016: 1237 citations
- Embase 1980-2016: 4725 citations
- CINAHL 1988-2016: 2099 citations
- Total: 11,169 citations

**Screening**
- Papers identified through hand searching (n=0)
- Duplicates (n=3331)
  - Electronic removal via endnote= 2044
  - Removed manually =1287
- 7838 abstracts were extracted and screened on the basis of title and abstract.
- 7500 records excluded on basis of title
- 296 citations excluded on basis of abstract

**Eligibility**
- Full text of remaining 42 articles assessed for eligibility
- Full-text articles excluded, with reasons (n=26)
  - Reviews=2
  - The study does not focus on obesity/weight management in aims= 2
  - Not physicians’ views within routine consultations=7
  - Mixed methods or quantitative= 8
  - Less than fifty per cent of the sample are physicians =3
  - Abstracts=2
  - Student health setting=1
  - Same data=1

**Included**
- 16 studies included in thematic synthesis
- Full-texts excluded because classified on CASP as fatally flawed or irrelevant (n=0)
5.4.5 Critical appraisal

Papers were critically appraised for rigour, credibility and relevance using an adapted Critical Appraisal Skills Programme (CASP) checklist [65] which has been used widely in meta-syntheses (e.g. 60,61,62,63,64,65,66]. Studies were rated using a 3-point scale (‘key’ = added considerable richness, ‘satisfactory’ = fulfilled the CASP criteria, and ‘unsatisfactory’ = failed the CASP criteria and/or did not enrich the analysis [63]. 4 were judged to be ‘satisfactory’ and 12 ‘key’. Evidence suggests negligible difference between ‘key’ and ‘satisfactory’ papers in terms of contribution to analysis (Malpass et al, 2009), hence study findings were weighted equally in the synthesis. A co-author (ADF), blind to original scores, rated each paper. One hundred per cent agreement was achieved.

5.4.6. The Synthesis Process

Thematic synthesis [41] is well-established and has been used to review health professionals’ perspectives [54]. Data extraction and thematic synthesis was conducted as outlined [41]. All studies were read and reread closely and key information recorded within data extraction forms (see Appendix 22). Free line-by-line coding of the article findings was followed by the development of descriptive themes. The final stage involved the generation of analytical themes. The analysis was led by the first author but all authors regularly met to discuss, refine and agree upon emergent themes.

5.5. Results

5.5.1. Description of selected studies

Across the 16 studies data were provided from 402 HCPs (range 12 to 60 participants), including GPs, nurses and dieticians. Five were based in the USA, 2 in Germany, 1 in Sweden, 1 in Portugal, 1 in the United Arab Emirates, 1 in Australia, 1 in New Zealand and 4 in the UK. All were published in English between 2001 and 2015. Eleven used semi-structured interviews, 1 used in depth interviews, 3 focus groups and 1 focus groups and semi-structured interviews (see Table 5.3. for methodological detail). The studies focused on two key areas, firstly, exploring physicians’ views and experiences of discussing weight management with overweight/obese patients and secondly physicians’ views and experiences of implementing
obesity guidelines. A variety of analysis was used and there was both an under and over reliance on raw data. The researcher participant relationship was only partially explored (see Table 5.3.).
Table 5.3. Description of included articles that were synthesised to capture physicians’ views and experiences of discussing weight management (N=16).

<table>
<thead>
<tr>
<th>Authors &amp; country</th>
<th>Aim</th>
<th>Participant characteristics</th>
<th>Data collection</th>
<th>Data Analysis</th>
<th>Themes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Alexander et al [67] USA</td>
<td>To examine Physicians’ beliefs, outcome expectancies, and strategies for addressing weight with patients.</td>
<td>Family physicians N = 11 Internists N = 6 Age of participants = not stated Gender of participants =not stated</td>
<td>N=2 Focus groups</td>
<td>Grounded Theory (Corbin &amp; Strauss, 1993)</td>
<td>1. Responsibility, 2.Barriers 3. Target Populations, 4. Introducing Topic 5. Ways to talk about Obesity</td>
</tr>
<tr>
<td>2 Ali et al [68] UAE</td>
<td>To explore weight management barriers for Emirati women and strategies that can facilitate their weight management efforts.</td>
<td>Family Medicine N= 7 General Practitioner (GPs) N=8 Dietician N=9 Nurse Educator N=5 Age of participants=not stated Gender of participants =not stated</td>
<td>N=29 In-depth individual interviews</td>
<td>Grounded Theory (Cutcliffe, 2004)</td>
<td>1. Barriers 2. Motivators &amp; Suggestions</td>
</tr>
<tr>
<td>3 Blackburn et al [113] UK</td>
<td>To explore general practitioners’ (GPs) and primary care nurses’ perceived barriers to raising the topic of weight in general practice.</td>
<td>General Practitioners (GPs) N=17 Nurses N=17 Age = all between 32 and 66 years GPs modal age range= 30-39 years Nurses modal age range= 40-49 years Gender Nurses N= 17 female GPs N=11 female N=6 male</td>
<td>N=34 semi-structured interviews</td>
<td>A deductive approach to content analysis to the Theoretical Domains Framework (TDF)</td>
<td>1. Limited understanding about obesity care 2. Concern about negative consequences 3. Having time and resources to raise a sensitive topic.</td>
</tr>
<tr>
<td>4 Claridge et al [117] New Zealand</td>
<td>This study aimed to explore GP opinion of weight management interventions in one region of New Zealand.</td>
<td>General Practitioners N= 12 Age of general practitioners = N= 4 aged 31-39, N= 3 aged 40-60, N= 5 &gt;60 Gender N= 7 male and N= 5 Female</td>
<td>N=12 semi-structured interviews</td>
<td>Inductive thematic analysis</td>
<td>Five key themes identified: 1) GP perceptions of what the GP can do; 2) the roots of the obesity problem; 3) why the GP doesn’t succeed; 4) current primary care interventions; and 5) bariatric surgery</td>
</tr>
<tr>
<td></td>
<td>Study</td>
<td>Country</td>
<td>Objective</td>
<td>Participants</td>
<td>Methods</td>
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</tr>
</tbody>
</table>
| 6 | Gudzune et al [29] | USA | To explore PCPs’ usual practices as part of weight counseling to identify how PCPs communicate with their patients about weight loss. | Physicians N= 24  Nurse Practitioners N= 2  
**Age** = mean age = 46.4  
**Gender** = N=15 females and N=11 males | N=5 Focus groups  Editing Analysis Style (Crabtree & Miller, 1992) | 1. Motivating patients to lose weight  
2. Partnering with the patients to achieve weight loss  
3. Handling challenges that arise as part of weight counselling |
| 7 | Gunther et al [70] | UK | To uncover and describe barriers and enablers to implementing NICE’s recommendations on the management of obesity in adults in general practice, using practical qualitative methods. | General Practitioners (GPs) N=7  
Practice Nurses N=7  
**Age** GPs N=4 aged 31-40, N=1 aged 41-50, N=2 aged 51-60  
**Gender** GPs N= 4 males, N=3 females  
**Age** Practice Nurses N=2 aged 31-40, N=3 aged 41-50, N=1 aged 45-64, N=1 aged 51-60  
**Gender** Practice Nurses N=7 females  
Patients N=9  
**Age** Patients N=2 aged 20-30, N=1 aged 31-40, N=2 aged 51-60, N=4 aged 61 and over  
**Gender** Patients N=1 male and N=8 females | N=23 semi-structured interviews  Thematic Framework Approach (Pope & Mays, 1999) | Patient:  
1. Motivation  
2. Patient Experience  
3. Stigma  
4. Cost of Services  
Practitioner:  
1. Consultation with patients  
2. Consistency of approach  
3. Not the practitioner’s responsibility |
| 8 | Hansson et al [40] | Sweden | To describe how GPs and DNs, both male and female, conceive their encounters with obesity in primary health care. | General Practitioners (GPs) N=10  
**Age** GPs N=2 aged 34-40, N=2 aged 41-45, N=2 aged 46-50, N=1 aged 51-55, N=3 aged 56-60  
**Gender** GPs N=6 female, N=4 males  
District Nurses (N=10)  
**Age** District Nurses N=1  
**Gender** District Nurses N=7 female, N=3 male | N=20 Semi-structured interviews  Phenomenographic Approach (Marton, 1981) | 1. Adequate primary health care  
2. Promoting a healthy lifestyle  
3. Need for competency  
4. Adherence to new habits  
5. Understanding patient attitudes |
| 9  | Heintze et al [71]  | Germany | This study analyses patients’ and physicians’ visions for the future management of obesity. | General Practitioners (GPs) N=15  
**Age**= mean age of 51  
**Gender**= N=6 males and N=9 females  
Overweight patients N=15  
**Age**= Age range between 43-73yrs (mean age 59 years)  
**Gender**= N=4 males and N=11 females | 30 in-depth semi-structured interviews | Qualitative Content Analysis (Mayring, 1983) | 1: Weight loss goals and motivation  
2: Dietary advice  
3: Physical activity  
4: Psychosocial aspects |
| 10 | Hong et al [72]    | USA     | The aim of this qualitative study was to assess family physicians’ understanding and perception of the personal and environmental factors influencing PA, especially walking, and factors affecting their counseling of obese patients about environmental motivators and barriers to PA. | Family physicians N=35  
Family Medicine Residents N=14 | 5 Focus Groups | Thematic Content Analysis (Miles, 1994) | 1. Awareness & practices of counselling related to PA/walking  
2. Physicians’ reactions to patients’ inactivity.  
3. Understanding of the relationship between neighbourhood environments & PA  
4. Physicians’ attitudes toward environmental resources to promote PA/walking |
| 11 | Kim et al [114]    | Australia | To describe the factors influencing general practitioners’ (GPs) referral intentions for their obese patients. | General Practitioners N=24 | 24 semi-structured interviews | Inductive thematic analysis | GPs’ own attitudes, experience and options.  
2. Patient’s motivation  
3. GPs’ previous experience  
4. Patients’ expectations |
| 12 | Leverence et al [73] | USA     | To examine the views of clinicians on obesity counseling and to compare these views to the recommendations of leading | *For the in-depth interviews*  
Family Physicians & Internists N=8  
Pediatricians N=5  
Mid-level practitioners N=7  
**Age** = not stated | 20 in-depth interviews and 10 focus group subjects | Immersion/crystallization and template approaches | 1. Screening and Counselling  
2. Resources to support weight loss  
3. Patient motivation |
| 13  | Mercer & Tessier [74] UK | To examine general practitioners’ and practice nurses’ perceptions of obesity, their strategies and attitudes towards weight management, and their views on the major obstacles to (and need for) better weight management in primary care. | General Practitioners (GPs) N=10  
Age= all below the age of 55  
Gender N=7 females and N=3 males  
Practice Nurses (PNs) N=10  
Age=all below the age of 55  
Gender N=10 females | N=20 Semi-structured interviews | Not stipulated | 1. GPs and PNs had little enthusiasm for weight management.  
2. GPs not appropriate use of time  
3. Frustrated at lack of success  
4. Patients lack motivation  
5. GPs keener to tackle obesity when patient had comorbidities |
| 14  | Schauer et al [115] USA | To explore how clinicians approach weight counseling, including who they counsel, how they bring up weight, what advice they provide, and what treatment referral resources they use. | Primary Care Physicians N=30  
Physicians N=14  
Physician Assistants N=11  
Nurse Practitioners N= 5  
Age  
N= 6 (aged between 18-35)  
N=13(aged between 36-45)  
N= 3 (aged between 46-55)  
N= 8 (aged between 56-65)  
Gender  
N=16 female  
| 15 | Sonntag et al [75] | Identifying GPs’ perspectives on counselling overweight and obese patients. | Primary Care Physicians (GPs) N=15  
Age  mean age = 51 years  
Gender N= 6 male  N= 9 female | Semi-structured guided interview | Qualitative Content Analysis | 1. GP’s role in obesity therapy 2. Need to treat 3. Situations in which the topic of overweight is addressed 4. GP’s objectives in obesity treatment 5. Barriers to obesity treatment |
|-----|-------------------|------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------|------------------------------------------------------------------|----------------------------------------|------------------------------------------------------------------------------------------|
| 16 | Teixeira et al [116] | To understand GPs’ views about obesity and obese people and how these professionals perceive their role in the treatment of this disease. | General Practitioners (GPs) N=16  
Age  all between 32 and 57 years  
Mean age = 51 years  
Gender  N= 7 male  N=9 female | N=16 semi structured interviews | Thematic Analysis | 1. Obesity as a public health concern 2. Obese characteristics v treatment demands 3. GPs’ sense of defeat vs need to treat. |
Thematic Synthesis

Analytical themes were: physicians’ pessimism about patients’ weight loss success, physicians’ feel hopeless and frustrated, the dual nature of the physician-patient relationship and who should take responsibility for weight management (see Figure 5.2).
Figure 5.2. Physicians’ experiences of discussing weight management within a routine consultation: analytical and descriptive themes.
Physicians were pessimistic about weight management viewing it as too difficult for patients to achieve and sustain. Physicians perceived that patients lacked willpower, found behaviour change challenging, were unaware of the risks of obesity, had little nutritional awareness, were untruthful about their diet, made excuses for their weight and were reluctant to accept responsibility for their problem. They found this frustrating, leading to a general malaise to address weight management feeling that success with patients was unlikely.

“very few succeed in losing weight, and even those only lose a little. Lack of success among their patients has also made them less optimistic about their ability to help others in the future” Hansson (2011) [author interpretation]

“anecdotes of success were frequently related with an expression of surprise” Claridge (2014) [author interpretation]

Physicians used a range of techniques to effect weight management: goal setting, rolling with resistance (a motivational interviewing technique) food diaries and scare tactics. Physicians emphasised ‘partnering’ and although they encouraged patients to address unrealistic weight loss goals by taking gradual steps both behaviour change and weight loss were a constant challenge [see Table 5.4 Text box 1].
Table 5.4. Text box 1: Additional quotations to demonstrate analytical themes

Physicians’ pessimism about patients’ weight loss success
“On the whole I’d say the success rate is quite low, in terms of major changes” Kim et al 2015 [Urban GP #2]

“I want lots of people with a BMI over 30 to go somewhere, but most are not really interested or motivated to change” Kim et al 2015 [Rural GP #1]

Physicians feel hopeless and frustrated
“PCPs avoided discussing weight and weight loss entirely when trying to balance multiple priorities during the patient visit. PCPs avoided discussing weight and instead focused on the patients’ co-morbidities: ‘Most of these people do have co-morbidities, and those co-morbidities often overwhelm the visit’” Gudzune (2012) [author interpretation]

“Many of the GPs and PNs interviewed expressed a keen interest in having a dietician attached to the practice, to advise on difficult or complex cases and to help support the efforts of the PNs” Mercer & Tessier (2001) [author interpretation]

The dual nature of the physician-patient relationship
“Living in this state of conflict was particularly uncomfortable for many doctors as they felt that it presented a challenge to their relationship with their obese patients and believed that a good relationship with their patients was central to their role as a GP” Epstein & Ogden (2005) [Author interpretation]

“You just find that you ‘hit’ someone at precisely the right moment and something you say, or something you enable patients to think about can change... change their life quite dramatically”. Claridge et al 2014 (GP 8)

“People seem to be quite accepting of me talking about weight, whereas in other social settings you could never discuss someone’s weight”. Claridge et al 2014 (GP 4)

Who should take responsibility for weight management
“Physicians consider that obese patients want that doctors hold control and responsibility over the treatment, don't recognize the nature, consequences and gravity of the problem and deny their condition, lacking commitment” Teixeira et al 2015 [author interpretation]

“Some women think healthy food is not interesting,” while some felt that Emirati women accept their higher body weight, hindering promotion of weight loss during counseling” Ali (2009) [author interpretation]

However, physicians recognised that it was a constant battle for patients to sustain motivation and they were unlikely to maintain weight loss and lasting behaviour change:

“I also tell [patients] that [your weight loss plan is] going to work for a few weeks or months, and then you’re going to go back to your same old bad old habits. When you fall off the wagon it doesn’t mean that you go and eat the half-gallon of ice cream...You have to say, Okay, I fell off the wagon, I’m not a bad person, stop all the
negative stuff – tomorrow, you get back on the program” Gudzune (2012) [Primary Care Provider].

This negative reaction from physicians may serve to perpetuate a sense of learned helplessness within patients who find weight management a constant challenge:

“I just haven’t seen it be very successful with very many people . . .. I mean the reality is [that] you know from everywhere you look weight loss doesn’t work very well for most people”
Leverence (2007) [Family Physician 2]

2. Physicians feel hopeless and frustrated

Physicians found discussing weight frustrating and prioritised immediate health concerns when patients presented with comorbidities, thus avoided initiating a discussion about weight. This was due to time constraints or an eagerness to fit the patient’s agenda.

Physicians expressed dissatisfaction with the paucity of available and effective medical management options (weight loss drugs or bariatric surgery) leaving them feeling helpless and overwhelmed:

“If they did accept responsibility for a patient’s weight, none of the available treatment options were particularly effective’’ Epstein & Ogden (2005) [Author interpretation]
“Some felt [bariatric surgery] was a last resort, because of the cost and risks associated with it” Kim et al (2015) [Author interpretation]

Physicians reported encouraging patients to join commercial weight loss programmes and perceived these to be somewhat effective. External support, specifically dieticians, was considered but participants perceived insufficient access to such services to meet patient volumes. Where available, physicians preferred a practice-based dietician.
Physicians reported a lack of joined up approach to weight management by services with poor communication between GPs, Nurses and other HCPs. It was argued that this led to disenfranchised care:

“They also demonstrate some scepticism regarding… referral to dietician or act in collaboration with other specialities was not a common practice”. Teixiera (2015) [author interpretation]

Weight management was perceived as unrewarding work and this negativity affected physicians within their practices and teams. Physicians also reported that weight guidelines lacked clarity, were difficult to implement locally and rarely used, often due to time pressures. Guidelines were sometimes in conflict with physicians’ treatment beliefs as some perceived that medical interventions recommended were ineffective.

“Well we certainly saw the SIGN guidelines (on weight management) and were horrified. There were aspects of the SIGN guidelines that we found quite unacceptable, particularly the recommendation to use appetite suppressants” Mercer & Tessier (2001) [General Practitioner]

Physicians wanted more transparent guidelines, especially information on dietary advice that was non-contradictory and consistent:

“Staff were especially eager for guidelines regarding dietary advice, which at present tended to be vague. Because of the many contradictions, different opinions and extensive debate about what were the most successful diet regimes, staff regarded it as difficult to offer balanced advice to patients” Hansson (2011) [author interpretation]

Finally, physicians expressed a desire for increased knowledge and training in motivational interviewing (MI), nutritional awareness, how to address weight management, cognitive behavioural techniques (CBT) and training via short courses and distance learning. Interestingly, physicians who had received prior training in MI were less frustrated with lack of success.
3. The dual nature of the physician-patient relationship

Physicians used the strength of their relationship with patients as a foundation for discussions about weight with increased rapport, continuity of care and knowledge of the patients’ history enabling effective ‘partnering’. This allowed them to assess patient’s motivation and gain a deeper insight into their world. ‘Partnering’ was key as weight management was perceived to be a continuous process that shouldn’t be tackled within short consultations. A sense of ease and progression within the relationship provided a platform for discussion and proved beneficial.

“Often, they saw that people were non-compliant to advice year after year but then suddenly things started to happen. The importance of encountering the same personnel was stressed by a number of staff” Hansson (2011) (author interpretation).

Central to the relationship was the use of patient-centred care (PCC). Physicians valued dimensions of PCC such as empathy, sharing positive and negative experiences and an appreciation that patients’ needs were physical, psychological and social. Tailoring weight management to meet patients’ individual needs and using PCC as a platform was pivotal:

“Both GPs and patients emphasized the value of successful patient-centred communication. When discussing the importance of communication, physicians mentioned trust as well as empathy and respect as essential prerequisites” Heintze (2012) (author interpretation).

Physicians were reticent to discuss weight as it was considered a sensitive topic and may impair their relationship:

“Several of the barriers…were unique to GPs, who expressed concern that raising the topic of weight conflicted with their desire to maintain a non-judgmental relationship with patients” Blackburn (2015) [Author Interpretation]

To preserve relationships, discussions were delayed until rapport had been established. However, some physicians avoided the topic, prioritising conditions that were viewed as easier to treat. Physicians feared negative reactions from patients and disguised the topic of weight using positive framing such as ‘healthy lifestyle’ rather than ‘weight loss’. Physicians used ‘hooks’ such as measuring body size and then presenting facts to the
patient. Physicians perceived these techniques allowed them to address the topic whilst avoiding offence.

4. Who should take responsibility for weight management?

Weight talk was perceived as only legitimate when it was linked to comorbidities. This also reduced the tension and ambiguity associated with treating obesity alone. In contrast, if obese patients presented in the absence of illness some physicians viewed this as non-medical and hence not their responsibility. The exception was when obesity levels were sufficiently severe.

“Being obese has a whole lot of medical implications…but it’s the medical ones that we tend to. We are on safe ground I suppose with medical implications”. Claridge et al (2014) [GP 2]

“Overweight and obesity were seen more as conditions that might involve a risk of diabetes or some other disease. If a concomitant disorder was present.. it was important to intervene”. Hansson (2011) [author interpretation]

Some physicians did not consider a legitimate medical solution existed for obesity and concurred when patients did not want medical solutions. They believed medication was a temporary solution and the key to success was maintaining behaviour change.

“I am not entirely sure that to medicalise it is the way forward” Mercer & Tessier (2001) [General Practitioner]

Physicians recognised that environmental barriers prevented physical activity and decreased patient motivation and this supported the idea that weight management was outside their remit, and that responsibility lay at a societal not an individual level. Some physicians referred patients to external weight management services believing managing weight was a societal problem so responsibility lay with external services. These services were more appropriate than ‘medicalising the problem’ and group based programmes more effective as they encouraged patients to take responsibility. Moreover, these services possessed ‘specialised knowledge’ that physicians did not have themselves.
Physicians identified cultural barriers such as a paucity of acceptable facilities for women to exercise, social habits revolving around communal meals and the perception that to be thin was to be unhealthy. Challenging these deeply held cultural beliefs was difficult and also outside physicians remit.

However, some physicians were clear they held some responsibility for helping patients manage weight.

“One GP called himself a ‘gathering place’ (GP2) for all health-related complaints and underlined his responsibility for patients’ health” Sonntag (2012) [author interpretation]

In contrast, some suggested that weight management was the patient’s responsibility. This resulted in a sense of conflict as they were aware that patients looked to them to take control and solve their weight problem, leaving them disheartened:

“GP's therefore described the issue of responsibility and although they felt that obesity was ultimately the patient’s problem, they felt that patients wanted the doctor to take ownership. This conflict resulted in GPs feeling frustrated with their patients’ inability to change their lifestyle” Epstein & Ogden (2005) [author interpretation]

There were different views as to who, within the primary care team, was responsible for supporting patients in weight management. This was usually delegated to a more junior member of the team. Finally, physicians lacked defined roles resulting in them relinquishing responsibility to other colleagues:

“we very much leave it to the practice nurse. I do not think it is a GP’s job to be doing hands on work- it is my responsibility to make sure it has been tackled by someone else” Mercer & Tessier (2001) [General Practitioner]
5.6. Discussion & conclusion

Discussion

This review is the first to synthesise literature exploring physicians’ views of discussing weight management within consultations and suggests that physicians continue to find weight management challenging. Novel themes were based on 16 studies establishing a robust body of evidence. The four analytical themes indicated that physicians perceive weight management as an arduous task for them and patients, and question who is best placed to address it. They prioritise relationships with their patients and perceive this helps to address the topic of weight without offending. Physicians used a variety of behaviour change techniques (BCTs) such as goal setting or encouragement [29,72] when discussing weight and were more confident that these would achieve success with patients as opposed to general advice. However, some still failed to use BCTs [33,35] or used ones with a weak evidence base e.g. fear arousal [76]. Both physicians and patients may benefit from further training in BCTs [77] or in methods such as motivational interviewing (MI). Furthermore, quantitative research proposes that physicians are pessimistic about patient motivation to lose weight, [78,28,79] however, evidence shows that physicians may be underestimating it [35,14]. This suggests more effective communication between physicians and patients may increase motivation levels. Finally physicians’ perceived that overweight/obese patients were in denial. This is in line with patients’ views of their own weight suggesting that patients with a raised BMI often underestimate their own body weight [80,81].

Our analysis supports previous findings that physicians consider weight management unrewarding [17, 82, 83, 84, 36, 85]. Physicians feel they have insufficient management options and are sceptical about their efficacy [83,35]. Physicians feel more confident offering medical solutions which may suggest why they are reticent to address weight [86]. In the absence of other options physicians encouraged patients to use commercial weight management services. Indeed, commercial slimming clubs can be more cost-effective for weight loss than primary care services led by trained staff [87]. Physicians advocated a joined-up approach to weight management. This supports the implementation of a collaborative obesity care model, [88] European Clinical Practice Guidelines, [2] NHS England [89] and the USPSTF [90] recommending clinical pathways for obesity and multidisciplinary teams to deliver weight management. However, guidelines often lacked clarity leading to physicians’ reluctance to follow them and a lack of confidence in
treatment recommendations [91]. Physicians wanted greater nutritional awareness and to learn techniques such as CBT and MI to motivate patients when addressing weight. Similar findings suggest physicians’ desire additional training, support and skills in weight management [35,91, 92, 93]. Furthermore, Bleich et al (2015) [88] found that non-physician HCPs also reported suboptimal training in weight management suggesting little progress in this area. Finally, physicians prioritised critical health concerns, especially when they lacked time or responded to the patient’s agenda. This may relate to the fact that weight management is a sensitive topic and physicians’ fear offending the patient [86].

The synthesis suggests the physician-patient relationship is a bedrock for weight management discussion but may also deter physicians from broaching it for fear of damaging the relationship. Physicians find weight discussions challenging preferring to treat illnesses they perceive as legitimate medical conditions [86]. Unsurprisingly, many physicians used aspects of patient-centred care (PCC) such as empathy and partnership to facilitate discussions. This is in contrast to Cox et al (2011) [91] who found that physicians rarely used PCC during in situ encounters about weight; suggesting that although physicians expressed a desire to deliver PCC within our synthesis, their perceptions may not be the same as what they actually do. The themes were interlinking for example the desire to preserve the physician-patient relationship linked strongly to physicians perception that behaviour change was too difficult for patients. Physicians perceived that weight management was challenging and lengthy and patients needed a solid foundation to maintain change. In addition, physicians use of PCC to facilitate discussions about weight related to their view that behavior change was hard and difficult for patients. Empathy was vital in order to facilitate weight management. Finally, physicians’ feared damaging the doctor-patient relationship when discussing weight so prioritised critical health problems especially when consultations were time pressured.

The final theme focused on the issue of responsibility. Physicians lack consistency when discussing weight [94,95, 28, 96] and the belief that weight management is their patients’ responsibility may be one cause [35,27]. Insufficient medical options, poor patient motivation and insufficient training were factors. Physicians argued others were better equipped to address weight, however this was typically delegated where possible to others more junior or with less autonomy. That is unsurprising given weight talk was viewed as unrewarding. The findings suggested that physicians fail to view ‘obesity alone’ as a legitimate medical problem so was therefore not within their remit. This is consistent with
research that physicians are more willing to initiate and discuss weight when they ‘medicalize’ it or when patients present with comorbidities affecting health outcomes [86, 16]. In addition medical training favours the biomedical model so physicians may feel more comfortable viewing weight as a medical problem [95]. Lastly, some physicians were reticent to take responsibility for weight suggesting that external factors such as family, society and culture were to blame. This supports previous quantitative research that over half of doctors believed the family was an essential influence on weight loss although few involved them in treatment decisions [82]. Furthermore, some physicians perceived cultural factors as a barrier to change making them less likely to take responsibility for weight management. However, some studies suggest that ethnic minorities are more likely to be counselled about weight [96] and that physicians in certain cultures such as the USA feel more confident about delivering counselling to ethnic minorities.

**Strengths**

This thematic synthesis is the first to investigate the views of physicians discussing weight within routine consultations. Despite 13 of the 16 studies taking place in Europe and the USA these results are still consistent with physicians’ views from other work undertaken on other continents suggesting generalisability [83,35]. All studies were of medium and high quality employing a wide range of methodologies adding to the strength of the findings. Our results complement previous quantitative studies that physicians lack confidence, knowledge and skills when addressing weight [30] are pessimistic about their patients’ ability to lose weight [28, 97] fear damaging the doctor-patient relationship [86] and are reticent to take responsibility [27, 98].

**Limitations**

Researchers have argued that identifying qualitative research is challenging [100, 101, 102] due to poor indexing within electronic databases [103, 43, 104,105] and the range of research designs among qualitative studies [99]. A move to more detailed abstracts and keywords to aid indexing would help rectify this [106]. To address this we employed extensive scoping searches prior to conducting systematic searches to increase search sensitivity [104]. Finally, although the selection of CASP was based on positive reviews [66] selecting a pertinent appraisal tool and evaluating qualitative work is a subjective task [107]. CASP may place too much importance on procedural aspects of research [56] and
ignore the reasoning underpinning theoretical aspects [107] giving a limited model of enquiry [108]. Providing a gold standard measuring tool for all researchers [109] would be beneficial [103].

**Practice implications**

Despite key policy recommendations from NICE [8] the USPSTF [90] and The Dutch College of General Practitioners (NHG) [110] suggesting physicians prioritise weight discussions with overweight/obese individuals; physicians still report significant barriers and are overwhelmed and frustrated. To reduce the barriers between physicians and patients there is a need for greater collaboration. Sharing knowledge and expertise in both primary, secondary and tertiary care would be useful. In addition, further clarification of physicians’ roles and responsibilities is advisable as well as the introduction of weight management ‘experts’ within GP practices or secondary care. Physicians could benefit from training in brief BCTs, deliverable within time-pressured consultations; such as MI [111]. It is evident that physicians view weight management as sensitive thus specialist training for all physicians at both undergraduate and postgraduate level could help. Finally, there is a potential role for behaviour change practitioners within primary and secondary care to take up this work and support existing practitioners. It has been suggested that health psychologists have the relevant skills to fulfil this role and may ease the burden on existing physicians and provide a more cost effective solution [112].

6.7. **Conclusion**

This review suggests that physicians continue to find discussions about weight arduous. Physicians are keen to safeguard the doctor-patient relationship and view the topic of weight as a potential threat to this, employing strategies to balance and preserve it. In addition, physicians perceive that weight management is too difficult for both patients and themselves and that they have insufficient support and expertise from colleagues, adequate treatment options, appropriate training, knowledge or weight management infrastructure to deal with this crisis. Finally, physicians vary in the level of responsibility they accept for weight management. When physicians do accept responsibility this is often due to ‘legitimate medical reasons’ such as concomitant disorders that they feel obligated to address.
Ethical approval

Not applicable.

Conflict of Interest

No conflict of interest was declared

Funding

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5.8. References


CHAPTER 6: Health Professionals’ views of discussing weight management with knee osteoarthritis patients

6.1 Chapter overview

Chapter 6 presents a qualitative interview study investigating health professionals’ views of discussing weight management with knee osteoarthritis patients. Information regarding dissemination is outlined below.

Title: Health professionals’ experiences of discussing weight management with overweight knee osteoarthritis patients: a qualitative study.

i. Article type: Original Research

ii. Journal: Arthritis Care & Research

iii. Submission date: May the 6th 2016

iv. Submission status: Revise and resubmit


Dewhurst, A., Hart, J. Peters, S. School of Psychological Sciences Postgraduate Research Conference, University of Manchester. (July, Manchester, 2015). Health professionals’ experiences of discussing weight management with overweight knee osteoarthritis patients: a qualitative study. (Oral Presentation)


Note. As this paper has been submitted for publication the formatting and layout of this article are in keeping with the guidelines for this journal. References will follow the Arthritis Care and Research style.
6.2 Abstract

Health professionals’ experiences of discussing weight management with overweight knee osteoarthritis patients: a qualitative study.

Anne Dewhurst, Jo Hart and Sarah Peters.

Objective. To explore health professionals’ (HPs) views and experiences of discussing weight management with patients who have knee osteoarthritis (KO) and a BMI of over 25.

Methods. 26 semi-structured interviews were conducted with a range of Health Professionals who had contact with knee osteoarthritis patients (family physicians, nurses, physiotherapists, secondary care consultants, occupational therapists and dieticians). 26 interviews were either face to face or telephone. Interviews were audio recorded, transcribed and analysed using thematic analysis.

Results: Regardless of discipline participants had received little or no training in behaviour change, including weight management. Initiating the topic was viewed as sensitive and health professionals regarded weight management as other people’s responsibility and were generally pessimistic about their role. HPs displayed inconsistent views regarding KO and obesity and believed patients’ views were also inconsistent.

Conclusion: HPs have an important role in helping patients manage KO symptoms through weight management. However they currently feel ill-equipped and are not adequately trained.
SIGNIFICANCE & INNOVATIONS

- Key guidelines (OARSI, ACR, EULAR and NICE) recommend that all HPs address weight management as a first line therapy with overweight/obese patients with KO however delivery is inconsistent.

- Scientific evidence demonstrating the link between weight loss and improvement in symptoms should be made available to all health professionals that encounter KO patients. This would help address the contradictory views of HPs.

- Training for all HPs irrespective of profession in brief behaviour change techniques could help HPs with all aspects of delivery that they are currently unsure of such as broaching a sensitive topic and encouraging motivation. This in turn may help HPs to accept greater responsibility for delivering weight management.

6.3 INTRODUCTION

By 2030 trends predict 76 million more obese adults in the USA and UK combined with an expected cost of nearly 2 billion pounds (1). Obesity is a risk factor for osteoarthritis (OA) (2) and in particular KO (3). KO is more associated with disability than osteoarthritis of any other joint (4) impacting significantly on quality of life (5).

Considering the increase in obesity levels and numbers of older citizens KO levels will escalate (6-8). In the USA, physician consultation rates for patients with KO are high in comparison to OA-free patients (9) and in the UK the numbers of people consulting a physician for KO are expected to rise from 4.71 million to 5.8 million by 2022 (10) placing an increasing burden on health services.

Due to the close association between obesity as a risk factor and KO, targeted weight loss is recommended (11). In a significant number of cases weight loss results in symptomatic improvement in obese KO patients (6,12) even when modest (7). Subsequently, overweight KO patients are recommended to lose weight as an initial treatment option (6, 13).
Most OA patients are treated in primary care (14) or ambulatory care (15) so family physicians are ideally placed to identify overweight at an early stage (16-18) and offer opportunistic behaviour change advice (19). Furthermore, HPs are keen to play a lead role in weight management, especially when weight is influencing health (18). A report by March et al (20) suggests that HPs (such as consultants and physiotherapists) should provide regular weight management support to OA patients who are obese. However, little is known about HPs’ perceptions of weight management conversations with KO patients.

Despite the clinical benefits of weight loss less than half of HPs address weight with obese KO patients (8,17). This is concerning as patients are more likely to attempt weight loss and achieve success if they have been counselled by their physician suggesting missed opportunities (17). Barriers reported by HPs include lack of responsibility, sensitivity of the topic, inadequate skills and training and finding the topic unrewarding (21) as well as a desire for more detailed information about diet and exercise. Simply instructing and teaching patients is not enough to facilitate behaviour change (14), patients want to know how to incorporate this knowledge into their daily lives (22).

There is a pressing need for understanding HPs experiences and perspectives of weight management dialogue between KO patients and HPs during routine consultations. The aim of the current study is to understand HPs’ experiences of discussing weight management with patients who have a clinical diagnosis of KO and a BMI of over 25.

6.4 PARTICIPANTS AND METHODS

The study was qualitative. Interviews were conducted with 26 HPs involved in KO management pathway (see Table 6.1). Thematic Analysis was used to analyse HPs’ experiences of talking to patients with KO and a BMI of over 25 about weight management.

**Participants and recruitment**

Twenty-six participants were purposively sampled to form a heterogeneous sample of HPs (see Table 6.1.) and levels of experience. Table 6.1. outlines their clinical specialties. HPs were recruited via email and phone and all encountered overweight/obese patients with KO within routine consultations. Ethical approval was obtained from the University Ethics Committee (ref 14070) (see Appendix 1).
Table 6.1.

Participant characteristics and range of HPs within the sample

<table>
<thead>
<tr>
<th>Gender</th>
<th>Number of Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Females</td>
<td>19</td>
</tr>
<tr>
<td>Male</td>
<td>7</td>
</tr>
<tr>
<td>Mean Age</td>
<td>45 years</td>
</tr>
<tr>
<td>Mean time in profession (range)</td>
<td>19 years</td>
</tr>
</tbody>
</table>

Range of Health Professionals

<table>
<thead>
<tr>
<th>Health Professional</th>
<th>Number of Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family Physicians</td>
<td>6</td>
</tr>
<tr>
<td>Dieticians</td>
<td>3</td>
</tr>
<tr>
<td>Nurses</td>
<td>4</td>
</tr>
<tr>
<td>Occupational Therapists</td>
<td>3</td>
</tr>
<tr>
<td>Secondary Care Consultants</td>
<td>4</td>
</tr>
<tr>
<td>Physiotherapists</td>
<td>6</td>
</tr>
</tbody>
</table>

Data Collection

HPs were based in the north west of England, Yorkshire and the West Midlands. Interviews were conducted by the first author (AD) between April 2014 and June 2014 at times and locations convenient for the participants. AD explained the study details, answered questions and obtained informed consent from each participant (see Appendix 4). A semi-structured interview schedule informed interviews (see Table 6.2.). Participants also provided demographic information and received a £20 voucher as a thank you for participating. The interviews were audio-recorded and transcribed verbatim and at this point all identifiable information from transcripts i.e. names and locations, were removed in order to protect the anonymity of the HP. Interviews ranged from 19 minutes to 72 minutes (mean = 35).

Data Analysis

Interviews were analysed using inductive thematic analysis (23). This method is both “accessible and theoretically flexible” (23, p.77) and when analysing qualitative data, codes are linked strongly to the data itself (23, 24). Transcripts were read and re-read by AD and initial ideas were stored in a reflective diary. Transcripts were then coded, line-by-line across the whole data set collecting information pertinent to each code. All transcripts were read by at least two team members who then met regularly to look at the coding frame. Codes were generated into possible themes and a thematic diagram was developed to capture the analysis (see Figure 6.2). Analysis continued until an overall story was generated and all themes had clear names and definitions (23).
Table 6.2.
Topics investigated during the interview with example questions.

Interview topic and example questions

<table>
<thead>
<tr>
<th>Beliefs about knee osteoarthritis and weight</th>
</tr>
</thead>
</table>
| *What expectations do you have about communicating with patients about weight management?*
| *Think about the last time you came across a patient with KO and a BMI of over 25? Could you describe them? What did you talk about?*

<table>
<thead>
<tr>
<th>Experiences of communication about weight management</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>If sometimes you don’t introduce the topic of weight management can you tell me what the barriers might be?</em></td>
</tr>
<tr>
<td><em>What approach do you feel works best when talking to patients about weight management?</em></td>
</tr>
<tr>
<td><em>Training/resource needs (e.g. knowledge/availability of resources that they can direct people to).</em></td>
</tr>
<tr>
<td><em>What, if any, training have you received in weight management?</em></td>
</tr>
<tr>
<td><em>How do you think weight management training could be improved in the future?</em></td>
</tr>
</tbody>
</table>

6.5. RESULTS

Analysis was organised into 2 themes. The first was **What can we do?** containing 5 subthemes (see Figure 6.2.). The second theme is **What we can do** and contained 3 subthemes (see Figure 6.2.). Each are described in turn and supported with illustrative quotes (ID numbers given in parentheses along with participants profession). An explanatory model of the final analysis is presented in Figure 6.2. Additional quotes to illustrate theme 1 and 2 are presented in Text Box 1 (See Table 6.3.) and Text Box 2 (see Table 6.4).
Table 6.3. Text Box 1. What can we do?

- **Weight management is a sensitive topic**
  "I am much more likely to broach it with someone if I have a good rapport"  
  [Family Physician, P1]
- **We can only do so much**
  "our job confounds us...we can’t do everything for everybody"  
  [Physiotherapist, P4].
  “you can do something about your weight and they will then say to me but I can’t because I can’t exercise and I nearly always reply that it’s actually what goes in your mouth that puts your weight on it’s not the amount of exercise you take that takes the weight off you eat too much to put your weight on” [Secondary Care Consultant, P5].
- **Motivation**
  “they can’t mobilise as much as they used to they just feel that they are in a never ending situation and it’s not going to get any better” [Occupational Therapist, P21]
  “A lot of people don’t have a lot of faith in themselves really” [Dietician, P20]
  “I had a friend years ago who was told come back when you’ve lost two stone and we’ll do your knee replacement..it’s not productive is it” [Nurse, P22].
  “they are sitting in front of clinic in front of me in clinic giving me all the reasons why we should consider them for bariatric surgery and really we both know the reason that they want it is because they have been told that they have to have it in order for them to have knee surgery and that’s it’s not like they have come willingly in that respect” [Dietician, P24].
- **Inconsistent delivery & views**
  “they should try and reduce their weight because the impact on the joints overall in any rheumatology condition is going to give them better outcomes” [Nurse, P13].
  “you need to look at non medical matters, non pharmacological interventions and weight gain and weight loss is a really important part of my belief” [Secondary Care Consultant, P5]
  “it’s a bit the research I don’t think is quite clear is whether if you lose weight you definitely get an improvement in knee pain” [Secondary Care Consultant, P5].
- **Responsibility**
  “people aren’t willing to accept their own responsibilities for their own health issues” [Physiotherapist, P14].
  “a lot of professionals almost blame patients for being overweight as if they bring it upon themselves and I sense that patients hear this” [Family Physician, P3]
  “the discussion I had with them centred on the treatment options that they had I didn’t discuss weight management” [Physiotherapist, P4].

**Theme 1: What can we do?**

**Weight management is such a sensitive topic**

Participants, irrespective of profession, viewed weight as an “emotive” and delicate topic that was “tricky to bring to the table” [Nurse, P12]. Patients could be “embarrassed and offended” [Family Physician, P1] so HPs were reticent to raise weight for fear of damaging the HP-patient relationship. Protecting the relationship was key and a fine-tuned balancing act within the consultation. HPs were fearful of patients’ complaints or being seen as
someone that “harps on” [Secondary Care Consultant, P10] about losing weight so delayed weight management until rapport had been established and then used the strength of their relationship as an opportunity to discuss it. Highlighting the sensitivity of the topic certain HPs discussed how their previous experience raising delicate subjects eased the discussion “if you can talk about pelvic floors and bowels .. you can talk about anything” [Physiotherapist, P16]. Furthermore, the title of dietician ‘legitimised’ weight management discussion “they may already be referred to me for weight management so often I’m not bringing up the topic or it is not coming up as a new issue” [Dietician, P25].

We can only do so much

HPs were pessimistic and believed that their role in affecting behaviour change was “minimal” [Secondary Care Consultant, P23]. Barriers included short consultation times, few solutions to offer patients and limited access and availability of weight management specialists (e.g. dieticians).

Furthermore, many HPs perceived patients mislead them regarding the actual content of their diet and were often defensive:

“If I tell them that they are overweight they are like yeah and what are you going to do about it” [Family Physician, P11]. This resulted in HPs failing to broach the topic or ‘If they’re defensive I leave it” [Physiotherapist, P15].

HPs also suggested that patients were in a “vicious circle” [Occupational Therapist, P17] as KO restricted movement making exercise painful and weight gain inevitable. However, some HPs were frustrated with patients who suggested they could not exercise so were unable to lose weight perceiving this as an excuse for weight loss failure. Finally, most HPs were not familiar with the NICE guidelines in relation to weight management and osteoarthritis and those that did suggested they were instructive rather than informative

“I don’t know of any kind of guidelines what the best way to affect change is” [Secondary Care Consultant, P23].

Motivation

HPs were pessimistic about patients’ desire to lose weight and their capacity to help them. Patients often missed appointments, hindering weight loss and were in a downward spiral of weight gain, decreasing mobility and pain. Furthermore, patients lacked confidence in their ability to lose weight often as a consequence of a long history of weight loss failure.
HPs acknowledged that behaviour change was hard for patients, more than smoking or alcohol as you “just can’t stop eating ...it’s really really tricky” [Nurse, P12].

Most HPs agreed that patient motivation was key to weight loss so the right motivator was essential. However disagreement existed among HPs as to what motivated patients. Some felt that KO symptoms such as pain and loss of mobility often acted as a trigger for weight loss whereas others felt that “embedding it in a musculoskeletal context mightn’t be right” [Secondary Care Consultant, P23]. HPs also had mixed views regarding the motivating role of knee and bariatric surgery. Being told to lose weight by a surgeon to enable surgery was perceived by some HPs as a “strong driver” [Secondary Care Consultant, P23] whereas others felt this argument lacked legitimacy for the patient and demotivated them.

HPs suggested that patients needed to be in the right moment for change to achieve success and assessed motivational levels and mood before deciding to address weight management:

“when I saw him again he’d picked himself up, dusted himself off and got on with it” [Nurse, P13]

Finally, HPs stressed the difficulty of maintaining weight loss as visible results were slow with patients relapsing quickly. Consequently, many HPs suggested that patients needed “constant support to succeed.. regular weighing” [Dietician, P24] and that the task was too difficult without it.

Inconsistent delivery & views

HPs reported a “very clear link” [Secondary Care Consultant, P5] between KO and obesity although some suggested that obesity was not the only causative factor. Nonetheless most believed that obesity resulted in more wear and tear on the knee joints and aggravated existing joint problems. Some HPs commented on their patients’ ability to link both KO and obesity suggesting inconsistencies in views. Whilst patients often recognized that weight could worsen problems, HPs believed that the majority of patients did not connect KO and obesity instead viewing KO as “down to age or other factors not necessarily admit that it’s weight ” [Occupational Therapist, P17].

Patients also failed to make the connection with KO and obesity in the same way as they do with conditions such as diabetes and some HPs suggested that KO was not “high profile” [Family Physician, P11] enough with the public and this needed to change.
HPs had a range of views when discussing the relationship between weight loss and the reduction in KO symptoms. For example some HPs advocated the benefits of weight loss but were then skeptical about the evidence base. Whilst some HPs were confident that weight loss would slow KO progression most wanted clearer scientific evidence or “definitive information” [Family Physician, P11] that weight loss leads to symptom reduction “so people have definite figures to go to” [Family Physician, P11].

Finally, some HPs worked hard to reframe patients’ inconsistent views that by walking or exercising on a painful knee they were causing harm:

“a lot of people have fear avoidance they won’t walk on it because it hurts and that needs to be got rid off I think” [Secondary Care Consultant, P5].

**Responsibility**

Some HPs suggested weight management was not within their remit assigning responsibility to other colleagues for example GPs to nurses, OTs and Rheumatologists to GPs. The main reason was a perception of insufficient expertise of themselves and perceived expertise of others. They also believed that other HPs had more time to focus on weight management and were concerned about usurping other HPs’ role.

“you don’t want to take the jobs away from dieticians” [Nurse, P13]

Some HPs also shifted responsibility to their patients suggesting they should self-manage their own weight. In return participants perceived that patients felt blamed for their weight feeling increasingly negative about their situation. Finally, some HPs suggested that their key priority was to address the physical management of KO (medical symptoms and solutions) and highlight the mechanics of weight on knee loading not weight management.

**Theme 2: What we can do?**

**Pleasing the patient**

Although some HPs were reticent to accept responsibility for weight management some were eager to see the bigger picture taking a patient centered approach. These participants stressed the importance of partnering with the patient, building rapport, expressing empathy, removing blame, digging deeper and contextualizing weight management within a disease based model. This was particularly important when patients presented with
overweight and KO. In a few cases patients were the first to raise the topic of weight management especially if their weight was impacting on their health and HPs expressed a desire to fulfill patient expectations. When HPs were alerted to a diagnosis of KO some actively discussed weight with their patients “I would always encourage them to lose weight if they were overweight” [Family Physician, P6] however HPs were keen to stress the link between KO and obesity, especially if patients failed to connect their weight with a lack of movement “they just continue to keep putting on weight and they just aren’t putting the two together” [Occupational Therapist, P18]. In line with this HPs were keen to address the dangers of obesity as patients did not always perceive it as risky. Finally HPs were eager to deliver what they perceived their patients wanted; a medical solution not weight management discussion.

“I get the vibe from my patients [pause]…… they expect the doctor to look at the medicines and the condition” [Nurse, P12].

Tools & Techniques

Finally, HPs discussed the tools they used when addressing weight. These included medical options such as Orlistat, web based resources such as the Royal College of General Practitioners website, apps, paper resources, referral to dieticians or more direct behavioural methods such as food and mood diaries, praise and goal setting. The importance of setting the patient short term, realistic and motivational goals was perceived as valuable. In contrast some HPs employed more direct methods when patients presented with KO, pain and the possibility of knee surgery. HPs described looking for hooks (see Figure 6.1.) or “windows of opportunity” [Nurse, P13] to address weight. For example, comorbidities provided an opportunity to raise the issue of weight or the link between excess weight and knee loading

“if it’s a weight bearing joint and if they bring it up then that opens the door” [Physiotherapist, P15].

HPs also used subtle inferences within dialogue, excess baby weight, cues from the patient, medical props and equipment needs in order to ease the discussion. One HP described placing items strategically within a treatment cubicle to evoke weight management talk

“ I’ll just leave things like the healthy plate options… in the cubicle something like that and they’ll pick one up” [laughs] [Physiotherapist, P16].
Training

Most HPs did not recall “having received any training specific about weight management” [Family Physician, P8] either during professional training or within their current role and felt under skilled when discussing weight. Furthermore, they did not feel equipped to talk about diet and nutrition with patients and were under confident when broaching the subject:

“It did feel a bit like a handicap not having that training” [Family Physician, P3].

However, there were exceptions. One GP had received training via a specialist weight management service (although none prior to this) and all dieticians had received behaviour change training, albeit limited, whilst at university and within house. These HPs were more confident when addressing weight and discussed the possible benefits of receiving training at university:

“I ..think that proper training ..should be done regularly and not just a one off because if it was a one off it wouldn’t be enough to .. reinforce that training and the importance of being able to encourage healthy lifestyle and behavioural changes” [Family Physician, P3]

Finally some HPs reported that their weight management training was often self-taught, knowledge they had acquired through colleagues or private reading rather than formal training sessions. They expressed a desire to receive “some formal training” [Nurse, P13] or wanted practical “strategies for discussing the subject” [Physiotherapist, P14] and suggested ways in which training could be improved or directed. HPs wanted training to be specialised, knowledgeable and delivered by HPs from the same profession with ideally an awareness of KO as “it’s not just a weight loss thing you know the barriers to somebody changing their lifestyle” [Physiotherapist, P19].

“I suppose if it’s training for a dietician ..if it is a dietician it can be more helpful because they understand a bit more about the different things we might cover in a consultation” [Dietician, P25].

HPs also suggested techniques that they would be interested to learn and employ within the clinical consultation such as cognitive behaviour therapy, motivational interviewing and a greater understanding of the psychology underpinning weight management.
Table 6.4. Text Box 2. What we can do

- **Pleasing the patient**
  “making sure that you’re approachable so if they do feel like that they haven’t done well that week that they are still going to keep their appointment with you” [Dietician, P24]
  “I think if they are overweight and have bad knees they probably have more going on than just OA knee so I would hope with all of our patients we would look at the holistic approach” [Physiotherapist, P15].
  “I just say your knees are going to be much better if you lose some weight do you think there is any way we could do it? is there anyway I could help you to do it? do you want any leaflets? [Nurse, P13].

- **Tools and techniques**
  “I’m often fairly blunt and say things like unless you get half a stone off or a stone off you are not going to begin to improve your pain” [Secondary Care Consultant, P5].
  “if they have come in with any disease where obesity could be a causative or exacerbating factor then I will generally if I can always talk about it” [Family Physician, P6]

- **Training**
  “training is key really and picking up the problems a bit earlier on before they get to my clinics” [Dietician, P24].
  “I suppose if it’s training for a dietician ..if it is a dietician it can be more helpful because they understand a bit more about the different things we might cover in a consultation” [Dietician, P25].
Figure 6.1. Techniques used by health professionals when discussing weight management

- **INFORMATION GIVING**
  - Dietary advice
  - BMI of patient

- **EXPLOITING OPPORTUNITIES**
  - Comorbidities
  - Medical equipment
  - Props & cues

- **BUILDING RAPPORT**
  - Patient centredness
  - Empathy
  - Non verbal skills

- **BUILDING MOTIVATION**
  - Motivational Interviewing
  - Goal setting
  - Praise
  - Food diaries
  - Weight loss apps

Techniques used by HCPs to discuss weight management
6.6. DISCUSSION

This is the first study that qualitatively explores HPs’ experiences of discussing weight with overweight KO patients. HPs realised the importance of addressing weight and pleasing the patient although most had received little or no training in weight management and were fearful and under confident when broaching it.

HPs predominantly viewed weight management as challenging and in line with previous research continue to find raising weight problematic (25) perceive it as sensitive (26), are time restricted (27) confused as to whose responsibility it is and view patients as poorly motivated (28) and in denial (29). Evidence based guidelines such as the American Academy of Orthopaedic Surgeons (2013) (30) EULAR (31) OARSI (32) ACR (33) and NICE (2014) (34) recommend that HPs address weight in patients with KO. However our study suggests they feel ill prepared and uncertain how best to approach the topic extending current knowledge in the field of KO and weight management.

Most HPs had received limited weight management training, irrespective of profession. As reported by previous research dieticians had received more behaviour change training than...
other HPs (35) albeit limited and were more confident addressing weight (35). The role of dietician ‘legitimised’ weight discussions and weight was often the key reason for referral. However, dieticians were pessimistic about patient outcomes inferring their training was suboptimal (36). Weight management training for all HPs in techniques such as motivational interviewing could increase confidence and success when dealing with weight loss (37).

HPs displayed inconsistent views around KO and obesity. For example, some perceived that patients saw obesity as a causal factor for KO whilst others did not. These findings are significant as previous research suggests that if patients do see factors such as obesity or age as instrumental for OA they may have a fatalistic attitude towards their OA decreasing their inclination to engage in interventions (38). Identifying patients with these views is important as they may require extra motivation from HPs resulting in improved weight loss success (39). However, some patients failed to link KO and obesity suggesting some patients see obesity as a factor but not the key cause. These patients may perceive that OA is the result of injury or heredity or that OA causes the obesity (40). This is key as patients may blame their illness for weight gain so lack motivation to address their weight loss. Improving awareness between excess body weight and KO may help trigger weight loss (17).

HPs can play a pivotal role highlighting the link between KO and obesity and consequently increasing patient motivation to achieve weight loss. However, in line with prior research our study suggests that both HPs and patients still continue to perceive KO as low priority with poor public awareness (41). This is key as it may translate into lack of urgency from both parties to engage in preventive behaviour (42).

HPs displayed further inconsistencies regarding the relationship between weight loss and alleviation of KO symptoms. Outwardly they appeared to accept that weight loss eased symptoms but wanted transparent scientific evidence. Overwhelming evidence suggests that treating obesity effectively reduces KO symptoms (6,12) and weight reduction may be as successful as a joint replacement (43). Clear scientific evidence for all HPs may help promote preventive behaviour increasing the likelihood that HPs address weight management.
Strengths & limitations

Evidence suggests that weight loss decreases the pain and disability associated with OA (11, 12, 44) so HPs should encourage KO patients to address weight at an early stage (45). This study is the first to look at discussions about weight with a heterogeneous sample of HPs. This is valuable as most KO patients consult their physician and a range of HPs along the disease trajectory (46) so allows us to penetrate the content of these discussions. Furthermore, the research demonstrates parity with previous literature which suggests a need for weight management training (35, 36) and that HPs are generally pessimistic about their role (47).

It is possible that the data generated has some bias. The HPs that volunteered to take part and discuss their experiences may have been more interested, knowledgeable and confident during weight discussions compared with those who did not take part. There is evidence that people take part in research on topics that they are interested in and sympathetic to (48). This suggests that the problem may be more serious than the research indicates as the HCPs in our study still lacked confidence when addressing weight. Finally, although the interviews explored the views of HPs in detail we only know what HPs perceive patients to believe. It would therefore be beneficial to explore the views of overweight patients with KO to provide further clarity in this area.

Implications of findings and for future research

HPs, irrespective of profession continue to find discussions about weight challenging and sensitive and are inadequately trained. This concurs with weight management research in other health care fields such as maternal obesity (49). To address this, training at both undergraduate and postgraduate level and throughout professional careers would be beneficial. Evidence suggests that HCPs do not seek training in topics they have negative attitudes towards (50). This is pertinent as our HPs were pessimistic about weight management and their ability to achieve success with patients. Assessing HP attitudes’ to weight management discussion prior to training may help identify which HPs would benefit the most. Ideally, training should focus on practical ways to broach weight management, determining if patients are in the right moment for change and employing a patient-centred approach. At present HPs have a limited repertoire of techniques so training HPs to use brief behaviour change techniques would be beneficial for patients and practical for HPs. Our research showed that HPs with previous training were more confident when discussing weight.
6.7 Conclusion

Attempting to address concurrent KO and obesity is a complex challenge for HPs (12) however they are well placed to affect change during KO consultations (20) and patients can achieve weight loss (12). Key guidelines advocate weight loss for KO yet HPs in our study were ill equipped and irresolute when addressing weight so improved training would be beneficial. Furthermore, providing all HPs with transparent scientific evidence that weight loss alleviates KO symptoms may increase the likelihood that HPs address weight. Finally, training HPs to address weight management not only has implications for KO but other conditions linked to overweight/obesity such as diabetes and asthma.
6.8. REFERENCES


40. Husni, M. E. A New Look at Obesity and Osteoarthritis Many patients don’t want to believe the 2 are linked.


CHAPTER 7: A qualitative investigation of perspectives of patients with knee osteoarthritis talking with health professionals about weight.

7.1 Chapter overview

Chapter 7 presents a qualitative interview study investigating the perspectives of patients with knee osteoarthritis talking with health professionals about weight. Information regarding dissemination is outlined below.

Title: A qualitative investigation of perspectives of patients with knee osteoarthritis talking with health professionals about weight.

<table>
<thead>
<tr>
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<td>ii.</td>
<td>Journal: British Medical Journal Open</td>
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<td>iii.</td>
<td>Submission date: N/A</td>
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<td>iv.</td>
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A qualitative investigation of perspectives of patients with knee osteoarthritis talking with health professionals about weight.

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7.2 Abstract

A qualitative investigation of perspectives of patients with knee osteoarthritis talking with health professionals about weight.

Anne Dewhurst, Jo Hart and Sarah Peters.

Objective: To investigate the views and experiences of patients with knee osteoarthritis in talking about weight with HPs.

Design: 25 semi-structured face-to-face interviews were analysed using thematic analysis.

Setting: Three NHS trusts in the North West of England

Participants: Patients diagnosed with knee osteoarthritis (KO) who were overweight or obese (n=25).

Results: Patients actively desired a patient centred approach from their health professionals and would like them to consider their personal story whilst responding empathically and sensitively. Limited discussions about weight and poor weight management support and tools left patients feeling inadequately supported, frustrated and hopeless. Patients were trapped in a cycle of reduced mobility due to pain and resulting weight gain. Better pain management and tailored exercise advice is needed to help patients break the KO cycle.

Conclusions: Providing further training to HPs in patient centred care particular to weight management would help them address the sensitive topic of weight and may play an important role in helping patients manage KO symptoms and facilitate behaviour change.
7.3 INTRODUCTION

Overweight and obesity levels have risen globally (Roberto et al 2015). The UK has the second highest prevalence of obesity in the world (RCP, 2013) and by 2030, 11 million more will be obese (Wang et al 2011). Obesity is associated with adverse outcomes such as cardiovascular disease (Lavie et al 2016), some cancers (Khatib et al 2016), diabetes (Mohammad & Ahmad, 2016) and musculoskeletal conditions such as osteoarthritis (OA) (Arden et al 2013). The National Health Service (NHS) now spends five per cent of its entire budget on obesity related conditions (Dobbs, 2014) and this is expected to cost the NHS an extra £5.5 billion by 2050 (Wang et al 2011).

Knee osteoarthritis (KO) is associated with more disability than osteoarthritis of any other joint (Arthritis Research UK, 2013; Huang et al 2000) and has a significant impact on morbidity and quality of life (Arden et al 2013). Research suggests a strong association between KO and obesity (Messier et al 2004) and epidemiological studies indicate that overweight persons have increased rates of KO when compared to their non-over weight controls (Felson, 1996) for example obese females are four times more likely to develop KO than females with a body mass index (BMI) of under 25 (Coggon et al 2001). Furthermore, with burgeoning numbers of both obese and older citizens KO is likely to increase substantially in the near future (Arthritis Research UK, 2013; Blumenfeld et al 2012; Gudbergsen et al 2012; Hawker et al 2013; Ravaud et al 2009). Consequently, numbers of people consulting a GP for KO are set to rise from 4.71 million to 5.8 million by 2022 (Arthritis Research UK, 2013) and patient referrals to secondary care rheumatology services will increase considerably (Mitchell et al 2006) placing an increasing burden on the NHS (Patel et al 2014).

Evidence suggests a close association between obesity as a risk factor and KO (Harding et al 2016). For example overweight/obesity places increased pressure and load on knee cartilage in addition to changes in adipose tissue (Duclos, 2016). Consequently, targeted weight loss is recommended based on National Institute for Health and Care Excellence (NICE) Osteoarthritis (OA) Guidelines (NICE, 2014a). Weight loss can result in symptomatic improvement in obese KO patients (Gudbergsen et al 2012; Messier et al 2008; McAlindon et al 2012; Morden et al 2014; Richette et al 2011; Vincent et al 2012; Wluka et al 2013) even when weight loss is modest (Hawker 2013; Messier et al 2004).
Subsequently, overweight KO patients are now recommended to lose weight as a primary treatment (Gudbergsen et al 2012; McAlindon et al 2012; Zhang et al 2008) with the National Institute for Health and Care Excellence (NICE), Osteoarthritis Research Society International (OARSI) the American College of Rheumatology (ACR) the European League Against Rheumatism (EULAR) the American Academy of Orthopaedic Surgeons (AAOS) and the National Institute of Health and Care Excellence (NICE) all recommending weight management as a first line treatment.

Although OA patients are often assessed in primary care (Mann & Gooberman-Hill, 2011; Yu et al 2015) evidence suggests an increase in rheumatology patient workload and escalating referral rates for KO patients to secondary care consultations (Kirwan et al 2003; Smink et al 2014). Consequently, consultations with health professionals (HPs) such as physiotherapists and clinical nurse specialists are likely to increase and HPs are ideally placed to offer opportunistic behaviour change advice to patients with OA (Kwok et al 2011; Tallon et al 2000; Walsh & Hurley, 2009). Furthermore, HPs are expected to play a lead role in weight management, especially when weight is influencing health (Nolan et al 2012; NICE, 2014b; Ware et al 2012).

If HPs are to assume a greater role in behaviour change and weight management (McAlindon et al 2014; NHS 5 Year Forward View 2014), understanding the patient perspective will help facilitate this role change and improve HP-patient communication. Patient opinion regarding service provision is now actively encouraged as this is likely to result in the provision of care that meets patient needs (Mann & Gooberman-Hill 2011). Preliminary data suggests cause for concern. Patients with KO desire access to weight management counselling but do not always receive it (McAlindon et al 2014) and express negativity regarding conservative management of their condition by HPs (Smith et al 2014). Furthermore, previous research suggests that HP discussions about weight with OA patients have focused on general recommendations rather than affecting behaviour change (Rosemann et al 2006). Despite extensive research indicating that weight loss is a primary choice treatment for KO (Christensen et al 2005) no research has explored what patients with KO desire from weight loss discussions or how they would prefer weight loss to be broached.

Doctors find it challenging to initiate discussions about weight management for fear of offending patients and damaging the doctor-patient relationship (Chisholm et al 2012b,
Dewhurst et al 2016a under review). Consequently opportunities to initiate and discuss weight management are often missed (Antognoli et al 2014; Galuska et al 1999; Laidlaw et al 2014; Ma et al 2004). Practitioners involved in KO management (GPs, physiotherapists, rheumatologists, orthopaedic surgeons, occupational therapists and dieticians) reveal similar uncertainties (Dewhurst et al 2016b under review). In contrast, members of the public see weight management as being within the doctors’ role and expect doctors to initiate such conversations, but only where weight is implicated in their health problems (Hart et al 2015). Previous qualitative research with overweight/obese patients with long term conditions (e.g. diabetes) similarly suggests patients place great value on HP advice on weight management attributing significance to key factors such as trust (empathy) within the HP-patient relationship and constructive advice on how to achieve weight management with patients describing this as a pivotal moment when trying to achieve weight reduction (Ekezue et al 2012; Wermeling et al 2014).

However, this has not been explored amongst KO patients where research has focused on patient attitudes towards weight management interventions for KO (Hendry et al 2006) rather than how weight management advice is delivered and discussed with patients by a range of HPs and what factors facilitate and inhibit these discussions. This study will therefore be undertaken in order to gain a better understanding of this process.

This research aims to explore the views of patients with osteoarthritis of the knee talking about weight with HPs.
7.4 Methods

Design

The study aimed to explore the perspectives of overweight and obese patients with knee osteoarthritis in talking about weight with HPs. A qualitative design using semi-structured interviews was used in order to explore patient’ experiences (Barriball & While 1994). All participants gave informed consent prior to each interview and ethical approval was granted by Newcastle and North Tyneside 2 REF: (15/NE/0139) (see Appendix 11).

Participants, sampling and recruitment

Participants

Twenty-five patients took part in the study (see Table 7.2). The average BMI of patients interviewed was 36.1 (range = 25.1- 57.6) and the average number of years diagnosed with KO was 10 (range = 1- 42). The mean age of participants was 59 years old (range= 32 - 77). The inclusion criteria stipulated that patients were over 18 years of age, had a clinical diagnosis of KO and a BMI of 25 or over (Table 7.2. provides a summary of patient demographics).

Purposive sampling was used (Patton, 1990) in order to include “certain categories of individuals who may have a unique, different or important perspective on the phenomenon in question” (Robinson, 2014 p.32) and to “select information-rich cases whose study will illuminate the questions under study” (Patton, 1990).

Participants were recruited from both primary and secondary care settings across the North West of England and from within and outside the NHS. Multiple recruitment methods were employed. Posters were displayed (see Appendix 15) in one Primary Care Centre and a Rheumatology Clinic and the researcher (AD) handed out participant information sheets (see Appendix 17) within the Rheumatology Clinic. Furthermore, HPs in three NHS trusts were approached and agreed to help identify potential participants within the service to ask if they were interested in taking part. This included participants currently receiving treatment and those newly referred to the service. HPs were invited to discuss the study with them and provided information to all potential participants via the participant information sheet. Participants then gave consent for their details to be passed on to the researcher via the consent to contact form (see Appendix 17). All interviews were conducted in a location suitable to the participant, 24 patients were interviewed in their
home and 1 on NHS premises. At the beginning of the interview, if participants were comfortable with the proposed procedure all participants were asked to give written consent (see Appendix 18) and their right to withdraw from the study at any point was restated.

**Data collection**

25 face-to-face semi-structured interviews were conducted by the lead author AD. Semi-structured interviews give the researcher flexibility regarding the use of probes and are useful when exploring sensitive issues (Treece & Treece, 1986) such as weight management. Interviews followed a pre-determined schedule comprising key topics that explored i) patient beliefs about KO and weight ii) their experiences of communication about weight management iii) training/resource needs and specific HP characteristics (see Table 7.1 for interview schedule). A pilot study was conducted to refine and modify the interview schedule to maximize its effectiveness in generating relevant data (Barriball & While 1994). Data were conducted over a period of four months with a further three months for analysis. Interviews were audio recorded and lasted 33 minutes to 109 minutes (mean = 59). Based on previous research concerning similar issues (Crooks et al 2012, Cuperus et al 2013, Mellor et al 2013; Phillips et al, 2013), 25 interviews were considered sufficient to achieve data saturation.

**Data Analysis**

Audio recordings were transcribed verbatim at which point any identifying information (e.g. names and places) were removed. Quirkos v.1.4 a qualitative analysis software package was used to develop codes and themes. Data was analysed using thematic analysis. Thematic analysis is a technique used extensively to study patterns (themes) and provides a rich description of the data (Braun & Clarke, 2006). Interview findings were analysed using inductive thematic analysis a procedure outlined by Braun and Clarke (2006). Transcripts were read by two members of the team who then met to discuss the codes and themes. This allowed the team to identify, analyse and report upon communication needs by both HPs and patients, while keeping their views and concerns central (Boyatzis 1998; Braun and Clarke, 2006). Thematic analyses of talk about clinical communication has been successfully applied by health psychologists to produce findings related to many aspects of clinical communication (Crooks et al 2012; Cuperus et al 2013; Hart & Peters, 2011; Peters et al 2008). AD, SP and JH formed their own thematic categories with supporting quotations. These were then compared among researchers, and
jointly discussed until cross researcher consensus was reached and a final analysis model established.

Table 7.1. Interview schedule for patient interviews

<table>
<thead>
<tr>
<th>Topic</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beliefs about (KO) and weight</td>
<td><strong>How long have you been suffering from KO?</strong></td>
</tr>
<tr>
<td></td>
<td>Tell me how you came to get diagnosed and your journey since?</td>
</tr>
<tr>
<td></td>
<td>What is your understanding about what KO is?</td>
</tr>
<tr>
<td>Experiences of communication about weight</td>
<td><strong>How do you feel about communicating with HPs about WM?</strong></td>
</tr>
<tr>
<td>management (WM)</td>
<td>Do you find it easy, comfortable, difficult?</td>
</tr>
<tr>
<td></td>
<td>If a HP has introduced the topic of WM within the consultation can you</td>
</tr>
<tr>
<td></td>
<td>remember how they did this?</td>
</tr>
<tr>
<td>Training/resource needs</td>
<td><strong>Reflecting now after your consultations is there anything that</strong></td>
</tr>
<tr>
<td></td>
<td>(HPs) could have done/said differently?</td>
</tr>
<tr>
<td></td>
<td>Would HPs benefit from more specialised training when talking about</td>
</tr>
<tr>
<td></td>
<td>weight management?</td>
</tr>
<tr>
<td>Specific HP Characteristics</td>
<td><strong>How might a HP help you lose weight? Why do you think it worked?</strong></td>
</tr>
<tr>
<td></td>
<td>Are there any specific qualities that a HP displays that make you more</td>
</tr>
<tr>
<td></td>
<td>likely to listen to/be motivated by them to change when discussing WM?</td>
</tr>
<tr>
<td></td>
<td>Looking back, when would be the best time a HP could raise the topic of</td>
</tr>
<tr>
<td></td>
<td>WM?</td>
</tr>
</tbody>
</table>
Table 7.2. Summary of participant demographic characteristics

<table>
<thead>
<tr>
<th>Participant</th>
<th>Gender</th>
<th>BMI</th>
<th>Age</th>
<th>Yrs diagnosed with KO</th>
<th>Occupation</th>
<th>Ethnicity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
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<td>57.6</td>
<td>58</td>
<td>10</td>
<td>Employed</td>
<td>White British</td>
</tr>
<tr>
<td>2</td>
<td>Female</td>
<td>28.8</td>
<td>71</td>
<td>10</td>
<td>Retired</td>
<td>West Indian</td>
</tr>
<tr>
<td>3</td>
<td>Male</td>
<td>31.4</td>
<td>77</td>
<td>42</td>
<td>Retired</td>
<td>White British</td>
</tr>
<tr>
<td>4</td>
<td>Female</td>
<td>42.2</td>
<td>32</td>
<td>1</td>
<td>Unemployed</td>
<td>White British</td>
</tr>
<tr>
<td>5</td>
<td>Female</td>
<td>32.8</td>
<td>54</td>
<td>14</td>
<td>Unemployed</td>
<td>White British</td>
</tr>
<tr>
<td>6</td>
<td>Female</td>
<td>31.7</td>
<td>67</td>
<td>13</td>
<td>Retired</td>
<td>White British</td>
</tr>
<tr>
<td>7</td>
<td>Male</td>
<td>25.5</td>
<td>57</td>
<td>20</td>
<td>Employed</td>
<td>White British</td>
</tr>
<tr>
<td>8</td>
<td>Female</td>
<td>27.6</td>
<td>63</td>
<td>1</td>
<td>Retired</td>
<td>White British</td>
</tr>
<tr>
<td>9</td>
<td>Female</td>
<td>45.9</td>
<td>57</td>
<td>8</td>
<td>Unemployed</td>
<td>White British</td>
</tr>
<tr>
<td>10</td>
<td>Female</td>
<td>28.9</td>
<td>56</td>
<td>5</td>
<td>Retired</td>
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</tr>
<tr>
<td>11</td>
<td>Female</td>
<td>32.6</td>
<td>58</td>
<td>6</td>
<td>Employed</td>
<td>White British</td>
</tr>
<tr>
<td>12</td>
<td>Female</td>
<td>30.5</td>
<td>57</td>
<td>4</td>
<td>Unemployed</td>
<td>White British</td>
</tr>
<tr>
<td>13</td>
<td>Female</td>
<td>39.2</td>
<td>67</td>
<td>16</td>
<td>Retired</td>
<td>White British</td>
</tr>
<tr>
<td>14</td>
<td>Female</td>
<td>42.3</td>
<td>59</td>
<td>1</td>
<td>Unemployed</td>
<td>White British</td>
</tr>
<tr>
<td>15</td>
<td>Male</td>
<td>39.1</td>
<td>64</td>
<td>8</td>
<td>Retired</td>
<td>White British</td>
</tr>
<tr>
<td>16</td>
<td>Female</td>
<td>34.7</td>
<td>59</td>
<td>5</td>
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<td>White British</td>
</tr>
<tr>
<td>17</td>
<td>Female</td>
<td>43.5</td>
<td>32</td>
<td>6</td>
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</tr>
<tr>
<td>18</td>
<td>Male</td>
<td>39</td>
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<td>19</td>
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<td>72</td>
<td>9</td>
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<td>20</td>
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<td>1</td>
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<tr>
<td>21</td>
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<td>31.5</td>
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<td>9</td>
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</tr>
<tr>
<td>22</td>
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<td>25.1</td>
<td>71</td>
<td>5</td>
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<td>White British</td>
</tr>
<tr>
<td>23</td>
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<td>45</td>
<td>10</td>
<td>Employed</td>
<td>White British</td>
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<tr>
<td>24</td>
<td>Male</td>
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<td>10</td>
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<tr>
<td>25</td>
<td>Male</td>
<td>40.8</td>
<td>46</td>
<td>25</td>
<td>Employed</td>
<td>White British</td>
</tr>
</tbody>
</table>

7.5 RESULTS

The data were organised within four key themes: (see Figure 7.1.) (1) Weight management is a sensitive topic. Patients felt blamed and judged by HPs. Key to this was the HP - patient relationship which was a useful platform to discuss weight. When continuity of care was present patients felt more comfortable discussing weight. (2) Patient-centeredness. Patients actively sought attention and care from their HP and were eager for them to see the bigger picture. In addition they desired and responded positively to sensitive and supportive dialogue. (3) The knee osteoarthritis cycle. Patients sometimes found themselves in a vicious chain of reduced mobility due to pain and weight gain. (4) Do we have the support and tools? They were not confident that HPs had the personal tools they needed to support them or the appropriate resources.
Figure 7.1. Key themes illustrating perspectives of KO patients discussing weight

Theme 1: WM is a sensitive topic

a. Appreciate how we feel

Patients perceived weight management as a sensitive topic from both the HP and patient perspective. Patients expressed deeply held beliefs such as feeling judged and blamed by HPs for being overweight. This added to their feelings of low efficacy about their subsequent weight loss making them less likely to adhere to advice. Patients knew they were overweight sometimes perceiving themselves as failures and a ball and chain on the state.

“It’s like a smack in the mouth from a friend” [P18]

They also expressed feelings of embarrassment. This was intensified if the HP was slim themselves, making it hard for them to ask for help.

“Because .. weight ..(sigh) is a very embarrassing subject and I don’t care who they are .. people that are overweight are not jolly (laughs) you know, we’re not, we’re overweight, we know we’re overweight, and .. I think it’s a very rare person that says they’re happy being at the weight they are, you know, I mean, because of all the implications, I mean, even if it’s only a vanity thing .. you know, not being able to wear what you want to wear and this kind of thing, but it’s very embarrassing to talk about it.” [P13]
Theme 2: Patient-centredness

a. Take an interest in us

Participants explicitly sought patient-centred care. They suggested that this was essential for HPs to see the bigger picture and develop an in depth understanding of their needs. Their needs included being treated with sensitivity, an appreciation of the reduced mobility and weight gain KO cycle and selecting appropriate tools and guidance.

“the key thing... is understanding the person.. you’ve got to understand what that person is about, you’ve got to listen... that is absolutely crucial.. stop with the obvious, don’t tell somebody they need to lose weight, they know that and we don’t go to the doctor or dietician or whatever to be told what we already know, we go for help and support and I think that’s what’s lacking” [P13]

Setting patients’ unrealistic goals, failing to take an interest in them, treating them in a dismissive manner or ‘telling’ them to lose weight alienated patients. Patients’ appreciated active listening skills from their HP and wanted a dialogue not a monologue.

“some people, erm, can be very abrupt can’t they, bit brusque almost, and straight away that just puts your hackles up a little bit and you just think, mmm, yeah, I don’t like you (laughs) and I don’t think that’s any help to anyone, because straight away you’ve broken down any, any, erm .. sort of, any sort of feelings of the, the personally that I would think, well I’m not going to listen to what you’re saying, straight away I’m thinking, sod off!” [P5]

Patients suggested that HPs were more comfortable practising within the medical model of health, focusing with expertise on disease processes and treatments, but when discussions moved to weight management and more emotional aspects of coping with KO, they perceived them to be reticent to delve further.

“you know I mean, .. .. yes, they’re very good at, at picking up signs, symptoms, diagnosing, referring you on, all this kind of thing, you know it’s all very, very mechanical, I think is the word that I’m looking for .. and weight management is not mechanical (laughs)” [P13]

A common belief among patients was that they desired a HP that cared. Patients described various actions which demonstrated this to them such as treating them as an equal, taking their time during the consultation and giving the patient their undivided attention. Patients also reported the importance of non-verbal communication such as eye contact and smiling.
Showing the patient they cared made participants more likely to listen and take advice from their HP. Furthermore patients reported feeling more at ease helping them to feel relaxed and open up during the interaction. Conversely when the patient felt not treated not as an individual, not listened to and patronised during the consultation, patients described actively disengaging from their HP.

“If she’d have listened, or she’s have asked me questions and you could have answered them rather than just talking at you...cos you think, well just carry on if you can’t get a word in, what’s the point” [P8]

b. Sensitive and supportive dialogue

Patients appreciated being treated sensitively and gently by their HP. Without exception, participants knew they were overweight. Terms such as obese deflated patients that already felt vulnerable and stigmatised. Instead they preferred subtle inferences rather than a direct reference to their weight. Patients were receptive to HPs using the link between weight loss and KO pain reduction to draw inference.

“That’s telling you you need to lose weight without that outright pointing the finger and saying you know you’re fat and you need to lose weight...” [P9]

Participants particularly responded to discussions about weight which they felt were raised in the appropriate context for example in relation to a comorbid condition. This felt more like being helped than being blamed.

“If I were to see a doctor .... my knees have flared up more and I’m really having problems and erm struggle to walk and everything’s painful, I would expect my GP to mention weight at that point, weight was an issue. If I went in with high blood pressure, say if I was overweight, I would expect him to say so, erm if I went in with a chest infection, I don’t think it’s appropriate...If I go in with a chest infection, that’s all I want, I just want you to sort my chest infection out, I don’t want you to mention anything else” [P10]

c. Don’t preach at us

Throwaway comments from HPs at the end of consultations irritated patients leaving them feeling frustrated and blamed. Participants were skeptical that weight was always related to their comorbid conditions, rarely responded to tactless dialogue and were fed up being told constantly to lose weight. Patients discussed a number of reasons why they resented being preached at by HPs. Preaching served little purpose other than to alienate the patient and was joined by a set of assumptions that the patient ate too much and that they were “tainted
with the same brush” [P23]. Patients were often aware they were overweight resented being spoken down to.

“you just get that pfff and the tuts and the looks and that I just think jesus you know I feel like I am being shouted at here” [P23]

“ Jesus you know it’s always about the weight” [P23]

If patients did broach the topic of weight management and it was dismissed by their HP they were unlikely to raise the topic again. In addition if participants perceived a HP had been tactless and unpleasant they rarely returned.

d. The Doctor-Patient relationship

The HP-patient relationship was described as key by patients and fundamental to discussions about weight. Continuity of care with one HP was perceived as positive and acted as a platform for weight management discussion. If rapport had been established patients felt happier to discuss weight and more confident initiating it.

“I’m now at ease with my doctor ...if she said something to me it would because she really thought it .... I would be fine...I would be at ease with that because she’s sensitive and she’s a kind person...you know it’s not a case of getting at, she’s not one of these that you, get you in, get you out, she spends time trying to help you, you know what I mean? [P9]

Theme 3: The KO cycle

A) Catch 22

Patients spoke of the “vicious circle” [P9] of KO and weight. After the onset of KO patients experienced reduced activity levels as exercise aggravated knee pain thus decreasing movement and increasing weight gain. In addition, some patients used food as a comfort to cope with the pain making weight management difficult to maintain. This placed patients in a catch 22 situation perceiving themselves to be in a difficult situation with no escape.

“it’s a catch 22, because you, you want to exercise to keep your weight down to take the weight off your joints, but you start to do the exercise and your joints flare up or cause you pain, and you’ve got to stop, so then you put a bit more weight on, and it’s just a vicious circle” [P10]

Interestingly only a few patients recognised that providing appropriate and successful pain relief could act as a window for behaviour change.
“you’ve got to look at .. a, getting the pain under control first I think, if the pain is under control then you can look at doing exercising within your pain constraints, but at the moment I know there is so little that you can do for OA, you know, it is wear and tear, it is grinding on the bone and it’s playing around with analgesics and that, I mean” [P13]

b) Knowledge deficit

Many patients had little understanding of what KO is and those that did described it as “wear and tear” [P7] or “bone on bone” [P12]. Instead, patients understood and defined KO as pain describing it as something that fluctuates and was constant in their lives. In addition, patients’ perceived that HPs were unable to perceive their pain levels as they did not have the condition themselves and visually they appeared fit and healthy.

“my understanding, good grief .. .. (sigh) .. .. I’ve just touched me wrist and it’s exactly like me knee, if I touch it wrong, it hits me that hard it feels like I’ve been thumped with a, a sledgehammer, and that’s exactly what happens with me knees. That’s best way I can, I can’t explain it any other way, you know” [P3]

Patients demonstrated a varying degree of knowledge regarding all areas of KO such as causes and treatment. Many perceived a link between weight and KO admitting that it was likely that weight would put strain on your joints and increase pain levels. However some patients did not link weight and KO suggesting other causal factors such as genetics, old age and work related injury.

“I was always up on, you know, ladders and .. so the joints got a lot of, I was knelt down a lot and on concrete floors and, it’s just basic wear and tear over the years, you know, I was in the building trade for twenty odd years. [P15]

Patients demonstrated a lack of awareness regarding treatments for KO and although some were aware that weight loss would alleviate KO pain others were not. Some viewed exercise as beneficial for knee pain whilst others perceived exercise as harmful and were hesitant to utilise this as a treatment method. It was not unsurprising that when patients lacked knowledge they expressed a desire for tailored exercises for their KO.

“in order to get the weight down you’re putting more and wear and tear on them joints. And more pressure on them joints, ’cos they’re working more, and they’re struggling working at really at doing nothing. .. just going up and down the stairs I can have pain, so going to the gym makes it a lot worse” [P4]
Theme 4: Do we have support and tools?

A) Practical support and guidance

Patients reported being desperate for practical support and guidance from their HPs and discussed the difficulties encountered with weight management and the challenges of being left to manage their weight loss journey alone.

“There’s no quick fix, and you know, in your heart of hearts that they’re not going to give you a quick fix don’t you, any sort of weight loss is, erm, is hard to do isn’t it, even when you’re physically fit, it’s hard to lose weight” [P10]

Patients expressed a need for motivation and a desire for monthly weight management support and goal setting. Patients were clear that weight management was not something they could attempt by themselves. The knowledge that someone they respected and trusted would be monitoring them acted as a key motivator.

“If my GP said to me, erm, I’d like you to lose half a stone by a certain date, then I would, I would expect him to .. get, call me back by that date, and if I knew I was going to be called back that day then I would make a blooming effort to lose that weight” [P10]

Furthermore, patients desired specific help for knee osteoarthritis. The average length of symptom display within our study was 9 years yet many were left to self manage their KO and their knowledge of KO displayed about their condition was anecdotal and not evidence based. Unsurprisingly patients expressed a desire for specific KO support groups where tailored messages such as exercise classes could be delivered. In addition patients were not always aware of the link between KO and weight so wanted HPs to clarify the link between weight loss and KO using evidence based research to support it.

“someone saying...if you do that it will benefit..the knee joint, de, de, de, de, and, but then if you say, well I had someone who, you know, and now they’re going for long walks, they’re doing this, they’re doing .. well I’ll have some of that thank you” [P5]

“I would have expected a GP knowing that I’ve got mobility problems to, to tell me that it has a direct link,...sometimes it takes somebody to say it to you, and for all he knew he perhaps needed to say to me, if you lose half a stone (participant) your knees will feel more comfortable, there won’t be as much on the joints as you’re walking. Nobody’s ever told me that...” [P10]
Finally patients wanted HPs to keep their language simple, avoid complex terminology and to clarify in straightforward terms how much or little weight loss would make a difference to their KO.

“BMI, what does it mean, body mass index... what’s that? Just tell me plain, straightforward English, tell me in pounds and ounces, even kilos, I’m converting, a kilo that’s 2.2 pounds...don’t dress up, don’t say...oh your body mass index and all this crap, just tell me you need to lose 2 stone, 3 stone...tell me in pounds, but yeah, straightforward, that, that’s what needs to happen” [P5]

B) Knowledge and training

Patients were skeptical about both their own knowledge of weight management and their physicians’. Patients possessed a lack of dietary knowledge, for example what constitutes a balanced diet suggesting eating healthily would mean a diet of “rabbit food and seeds and stuff like that” [P4].

Some thought that eating healthily was too expensive and were confused by the conflicting messages displayed by the media.

“you’re bombarded with all this like, erm, health messages all the time, cut your fat, cut you sugar, cut this, cut that, cut you know, and it changes constantly, and you know, don’t drink coffee, coffee’s bad for you, and the week after, oh coffee can prevent this”[P7]

Patients displayed conflicting views regarding who was best placed to deliver weight management. Some patients were respectful of GPs so suggested they would be better at delivering weight management than nurses as patients were more likely to respond to and be motivated by them. Others remarked that weight management was too basic for GPs, that they were rarely told anything new, the advice given was not useful and that GPs were more suited to ‘medical’ issues. Patients were skeptical that GPs were appropriately qualified to talk about weight suggesting that they were unable to display expertise in everything thus dieticians were more appropriate as they were specialists in their field.

“They can’t, they can’t be good, you know, I mean I know doctors are trained on maybe one item and bits as they’ve gone along, they might be good at one, but they can’t, they can’t .. be good at everything” [P8]

In addition, patients were skeptical as to whether HPs could ever understand their position and be able to help them if they had never had a weight problem themselves.
“to have an understanding of what it’s like to be overweight and to .. erm, struggle with trying to lose your weight. Erm .. ‘cos there’s nothing worse than somebody trying to tell you what it’s like but has never, ever had a weight problem” [P13]

Unsurprisingly patients were in favour of HPs being trained to discuss weight management and in particular how it should be broached.

“you know GPs don’t always ... obviously they can’t be specialised in everything, can they, but more and more people are getting arthritis because they’re living longer and basically it’s a wearing out disease isn’t it? ...it should be really being focused on, as much as diabetes and you know all the other things that are coming into the fore now because people are living longer”[P10]

“show some support .. maybe training on how to approach that patient .. .. maybe training on how to .. weigh up how that patient would react on .. it being mentioned in certain different ways”[P4]

C) Variable resources

Patients were negative about internal resources for example weight management materials and external resources such as slimming clubs. Many had never received weight management resources and those that had found them difficult to follow and expressed an interest in easy to follow dietary advice guidelines. Offering free slimming clubs would act as a key motivator as some patients suggested that the postcode lottery scenario discourages patients to lose weight acting as a disincentive.

“I’ve got a sister with OA and she’s maybe four times my weight, she doesn’t put the effort in and I do. Erm, strangely she gets the support for the weight loss and I don’t. but it’s just as important to me”[P10]

“why’s that the case I mean I know that every surgery has a budget from the government so why do some choose to help their patients and the others not to cause that’s how I see it”[P1]

Summary of results

Patients want HPs to adopt a holistic approach to care and to be treated as individuals. Caring for patients’ emotional needs is paramount and the medical model is not sufficient when doing this. Employing a patient-centred approach to overweight/obese patients is fundamental to their care and would allow HPs to break the KO cycle and elect appropriate care plans. Patients are facing a dual challenge of both weight management and KO, which are working against each other. Patients rarely recognise that providing appropriate and successful pain relief is a feature for behaviour change.
“cos I mean, obviously weight and OA are two big things .. and both together .. is a nightmare” [P4]

7.6 Discussion

Patients actively desired a patient-centred approach from their HPs viewing this as an ideal platform to affect behaviour change. Active listening, showing care and understanding, supportive and non-judgmental dialogue and seeing the ‘bigger picture’ was more likely to bring the patient on board, identify barriers to behaviour change, operationalize weight management discussion and reduce feelings of blame and stigma. In addition, patients were not confident that HPs had the knowledge and tools to support them. Patients had limited knowledge of KO, in particular the benefits and their beliefs around exercise; this may be hindering their ability to affect behavior change. Furthermore, patients felt trapped in a continuous cycle of reduced mobility and increasing weight gain and were disheartened by this. Providing patients with both emotional and practical support e.g. a patient-centred approach would help patients break the KO cycle and increase the possibility of weight management (Tallon et al 2000).

Patients actively desired emotional support to deal with both KO and weight management supporting prior research (Alami et al 2011). When weight was broached in a dismissive and clumsy way, for example when patients were exiting the consultation it resulted in feelings of frustration and resentment sometimes severing the HP-patient relationship. This links to previous research suggesting that a patient focused non-judgmental relationship is key when discussing weight and that poor communication is a considerable barrier to behaviour change (Fismer et al 2012; Hart & Peters 2011). In addition, patients reported expressing cues and concerns within their consultations, which they believed were often missed. Training HPs to respond to patient concerns would ultimately help them to understand the patient story and to target barriers to change more effectively (Zimmerman et al 2007).

Prior to and within consultations patients described feeling judged and blamed for their weight. This may have resulted in increased sensitivity to discussions about weight, especially when weight was broached in a clumsy manner. In addition, many patients made no link between weight and KO suggesting other causes such as work old age or genetics.

The importance of these beliefs are twofold. Firstly, these health beliefs may result in patients feeling resentful when weight discussions are broached and secondly if patients believe that OA is an inevitable part of ageing they may be less likely to consult leading to
poorer treatment outcomes (Paskins et al. 2013). This also ties in with previous research which suggests that stigmatising attitudes among HPs in relation to obesity are still prevalent (Creel & Tillman, 2011; Flint, 2015). Patients who feel judged have lower levels of trust in their health care provider (Gudzune et al. 2014). Training to reduce stigmatising attitudes in HPs may be one way forward. HPs need to clarify the link between weight and KO on a number of levels. Firstly, it is important that patients are aware that both overweight/obesity has been identified as a key risk factor in the onset of knee pain (Silverwood et al. 2015). Secondly, HPs should stress that weight loss can lead to the alleviation of pain and functional improvements (Christensen et al. 2005) and that prior research suggests that a combination of weight loss and exercise may be more effective than surgical interventions (Messier et al. 2004). It is important that HPs reiterate to patients that this is evidence based. Finally, patients expressed a desire for practical help such as monthly weight management support using behaviour change techniques such as goal setting. Evidence suggests that this is an effective method of eliciting behaviour change with overweight/obese adults (Pearson, 2012) but at present is rarely implemented.

**Implications for practice and research**

Our study highlights the sensitivity of weight management exacerbated by KO. KO affects the process of weight management as patients describe feeling trapped in a cycle of reduced mobility and weight gain with additional challenges such as high levels of pain when exercising. It is unlikely that the traditional medical model of health equips HPs with sufficient knowledge to treat the whole patient. Medical schools have sometimes portrayed the behavioural and social sciences as ‘nice to know’ rather than ‘need to know’ (Litva & Peters, 2008) and recent systematic reviews suggest that education in medical schools and nurse education regarding health behaviours such as obesity is limited and non-evidence based (Chisholm et al. 2012a; Fillingham et al. 2013). Furthermore, qualitative research with medical trainees revealed several barriers why medical education is inadequate such as lack of responsibility and skills (Chisholm et al. 2012b). With a burgeoning obesity crisis and an increasing elderly population it is likely that HPs will encounter many more obese patients with KO. Training HPs to deliver patient-centred care, sensitive dialogue and evidence based behavior change techniques should be addressed.

Patients presented with low self-efficacy, felt disheartened about their weight and were living with a long term condition that was both painful and disabling (Al-Taïar et al. 2013). Patients existed in a continuous cycle of pain, reduced mobility and weight gain leaving
them fearful of ever breaking this cycle. Research indicates that the vicious circle of increased loading, inflammation and heightened pain may result in lower levels of quality of life in comparison to the normal population (Gomes-Neto et al 2015; Rosemann et al 2006; Wluka et al 2013). This requires increased levels of understanding from HPs and reinforces the importance of providing holistic support to the KO patient (Alami et al 2011). Furthermore, patients reported significant levels of pain, which affected their ability to exercise. This confirms findings from previous research that pain is a key reason for patient KO consultations (Paskins et al 2013). However, evidence suggests that HPs are inappropriately equipped to manage pain (Marks, 2007; Ryan et al 2013) resulting in few opportunities to reduce pain and affect behaviour change. Patients actively required both emotional and practical support. If patients were listened to and their previous experiences explored and recognised it provided a supportive platform for weight loss discussions to identify barriers and enablers. This is considered pivotal when developing patient coping strategies (Smith et al 2014). Finally, patients desired practical help such as monthly support and goal setting. Training HPs in patient-centred care and lifestyle skills may empower patients to discuss the sensitive topic of weight whilst helping to break the KO cycle of pain (Rosemann et al 2006).

**Strengths & limitations**

The study has several strengths. Firstly, despite the inextricable link between weight loss and KO (Coggon et al 2001) and the effectiveness of weight loss in alleviating its symptoms (Kulkarni et al 2016) this is the first qualitative study to explore the experiences of patients with KO that are overweight/obese. Moreover, our research builds on previous research, which suggests that KO patients are pessimistic about the conservative management of KO and their HPs (Smith et al 2014). Our research reinforces the need for a patient-centred approach addressing the gap in care and providing support for KO patients (Rosemann et al 2006). Secondly, our study recruited a range of patients from three NHS trusts as well as patients who accessed private health services for KO. This is pertinent as patients report different experiences in both private and NHS services (Perotin et al 2013) and KO patients are more likely to access private health care such as physiotherapy as they are relatively inexpensive to use (Ackerman et al 2016; Bishop et al 2011). Furthermore, patients displayed a wide range of BMI levels, ages and duration of symptoms. We are therefore confident that this study reflects the views of a broad range of KO patients. However, the majority of patients were female so our results may not illustrate the experiences of male KO patients that are overweight/obese. Nevertheless KO
affects more females than males (O'Connor, 2007) and females are more likely to report
greater symptom severity (O'Connor, 2007) and increased sensitivity to KO pain than
males (Bartley et al 2016) thus making it harder for women to break the KO and weight
gain cycle. In light of this a higher proportion of females within our study was considered
appropriate.

During recruitment four patients declined to participate when approached by their HP and
a further two during follow up with the researcher. This may suggest that the participants
interviewed were more comfortable talking about weight. All the interviews were face to
face and conducted by one female interviewer. It is possible that this may have been
problematic for male participants as evidence suggests that same gender identification is a
key feature of effective interviewing (Lee, 1997) and that males may find discussing
sensitive topics with a female interviewer more challenging (Hutchinson et al 2002).
However, our research findings suggest that males did discuss personal aspects of weight
management and their treatment with the interviewee suggesting they felt comfortable
engaging in this conversation. Moreover, studies suggest that males engaged in research
are more comfortable discussing delicate topics with females than males (Broome et al
2009) and that female interviewers often display innate empathic tendencies making it
easier for males to discuss sensitive topics (Lohan et al 2000).

7.7 Conclusion

In conclusion, patients with KO receive little or no advice regarding weight management
(McAlindon et al 2014). KO patients are caught in a vicious cycle of reduced mobility,
pain and weight gain impeding behaviour change. Employing a patient-centred care (PCC)
approach is essential for high quality care (Bertakis & Azari, 2011; Michie et al 2003;
Richards et al 2015). Introducing elements of PCC within the consultation such as empathy
and tailoring may remove key barriers to weight loss (Fismer et al 2012) and is
recommended for patients with osteoarthritis (Rosemann et al 2006). Exploring the patient
story and establishing trust may act as a platform for non-judgmental discussions about
weight. In addition, patients actively desire tools to both motivate and support them during
their weight loss journey (Potter et al 2001). Training HPs to deliver behaviour change
techniques such as goal setting or interventions to activate patients (Butler et al 2013;
Dietz, 2015) such as healthy conversation skills (Black et al 2014; Lawrence et al 2016)
may increase patient motivation. Finally patients’ expressed uncertainty that HPs should
and are able to deliver weight management. Due to the increasing pressure on HPs within
both primary care and secondary care this may be a more suitable role for health psychologists.
7.8. References


CHAPTER 8: DISCUSSION OF FINDINGS

8.1. Chapter overview

This chapter presents a summary of the findings from across study 1, 2 and 3 (see Table 8.1.). This thesis aimed to synthesise qualitative studies of physicians’ views and experiences of discussing weight management within routine clinical consultations (Study 1) and then to explore the views and experiences of both HPs and patients when discussing weight management when patients had a diagnosis of KO (Study 2 & 3). A brief overview of the aims and findings is provided (see Table 8.1.).
Table 8.1. Summary of key research aims and findings.

<table>
<thead>
<tr>
<th>Research aim</th>
<th>Key findings</th>
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<td><strong>Study 1:</strong> To synthesise qualitative studies of Physicians’ views and</td>
<td><strong>Four analytical themes</strong> were found. Firstly, physicians pessimism about patients weight loss success. Secondly, physicians feel hopeless and</td>
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<td>experiences of discussing weight management within a routine clinical</td>
<td>frustrated when discussing weight. The dual nature of the physician-patient relationship and who should take responsibility for weight management.</td>
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<td>consultation (Chapter 5).</td>
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<td><strong>Study 2:</strong> To explore health professionals’ views and experiences of</td>
<td><strong>Theme 1: What can we do?</strong> HPs irrespective of profession viewed weight management as a sensitive topic. HPs perceived they can only do so much</td>
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<td>discussing weight management with overweight/obese KO patients (Chapter 6).</td>
<td>and were pessimistic about patients’ desire to lose weight and their capacity to help them. HPs’ displayed inconsistent views regarding KO and obesity</td>
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<td></td>
<td>and perceived patients did also. Some suggested weight management was not within their remit.</td>
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<td><strong>Study 3:</strong> To explore the perspectives of patients with osteoarthritis of</td>
<td><strong>Theme 2: What we can do</strong> Some HPs were eager to take a patient-centred approach. HPs discussed the tools &amp; techniques they used to address weight.</td>
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<td>the knee in talking about weight with HPs. (Chapter 7).</td>
<td>Regardless of discipline HPs had received little or no training in weight management and felt under skilled when discussing weight.</td>
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<td><strong>Theme 1: Weight management is a sensitive topic.</strong> Patients expressed feelings of judgment &amp; blame from HPs around their weight. **Theme 2: Patient-</td>
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<td>centredness. Patients wanted HPs to find out what makes them tick and appreciated supportive dialogue. <strong>Theme 3: The KO cycle</strong> Patients were trapped in a</td>
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<td>cycle of reduced mobility due to pain and resulting weight gain. <strong>Theme 4: Do we have the support &amp; tools?</strong> Patients were keen for practical support &amp;</td>
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<td>guidance but limited help left them feeling frustrated.</td>
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8.2 Synthesis of findings and additions to the field

This section provides an overview of the overarching themes throughout my thesis (see Figure 8.1.)

Responsibility

Findings from this thesis indicate that the issue of responsibility was key. Study 1 showed the subject of responsibility was complex for physicians and influenced by several factors. For example physicians’ perceived discussions about weight as legitimate if patients presented with comorbid conditions that were directly related to their weight (Flocke et al 2005; Simkin-Silverman et al 2005). This is supported by previous research which suggests that physicians are more comfortable framing weight management discussions as a medical problem (Scott et al 2004) compared to raising weight within routine settings.
(Blackburn et al 2015). Furthermore evidence suggests that patients are more accepting of weight management advice when they know their condition is linked to obesity (Hart et al 2015). For example in study 3 patients were happier to discuss weight management when HPs demonstrated the link between KO and weight using evidence-based research. This is an effective BCT from the Michie taxonomy e.g. providing information about health consequences or credible source (Michie et al 2013).

However, physicians were reticent to accept responsibility if patients presented with obesity alone although this may be because they perceived it as more sensitive to broach (Gray et al 2011). Physicians were more comfortable discussing weight if patients presented with a high BMI (Dutton et al 2014; Flock et al 2005) in line with previous research which suggests that physicians spend more time counseling obese rather than overweight patients (Pollak et al 2011).

In line with previous research some physicians did not accept responsibility for weight management suggesting it was the patient’s remit (Bleich et al 2011; Glauser et al 2015; Hash et al 2003). Some physicians suggested that external causes such as environmental barriers to physical activity were partly responsible for the obesity crisis and therefore responsibility lay at a societal level rather than an individual level (Blackburn et al 2015). Evidence suggests that environmental factors are key to patients managing their weight (Holley et al 2015) and that these environmental barriers may be more prevalent in areas of low socioeconomic status (Roberts et al 2015). For example research shows that patients with osteoarthritis report a paucity of qualified instructors, exercise programmes or facilities that meet their needs (Wilcox et al 2006). However physicians could help facilitate ways in which these barriers can be overcome (Greaney et al 2009) but may benefit from additional training to aid specific recommendations (Wilcox et al 2006). Physicians suggested two further reasons for relinquishing responsibility. Firstly, they suggested that external weight management sources were more effective at enabling weight loss as they prompted patients to take responsibility for their weight (Hash et al 2003) and did not “medicalise’ the problem (Steeves et al 2015) and secondly they lacked the skills and knowledge to deliver weight management themselves (MacDonald-Wicks et al 2015; Steeves et al 2015). This suggests that physicians may sometimes relinquish responsibility due to a lack of knowledge and training in weight management (Huang et al 2004).
This is supported by findings in both study 2 and 3 which suggest that HPs feel ill-equipped when discussing weight and patients lack confidence in their ability to do so. In contrast, some physicians within study 1 were willing to accept responsibility for weight loss discussions. However, recent research (Steeves et al 2015) and findings from study 2 suggests that physicians who perceive they have responsibility for weight management still report poor training and ineffective skills when managing weight (Steeves et al 2015).

In line with previous research HPs in study 2 often shifted responsibility to their colleagues (Bleich et al 2011; Hash et al 2003) for example general practitioners to nurses or consultants to general practitioners. Reasons for this included a perceived lack of expertise in the field of weight management and the view that other HPs such as dieticians were more suitably equipped to discuss weight. Interestingly, findings from study 3 showed that with the exception of dieticians patients were skeptical about their HPs ability to deliver weight management. Our findings are in line with previous research which suggest that in comparison to dieticians, who received significant training in behaviour change, only a minority of HPs are trained in weight management leading to low levels of confidence when delivering weight management (Chisholm et al 2012; MacDonald-Wicks et al 2015). This concurs with study 1 and suggests training could be addressed. (Steeves et al 2015). It is not surprising therefore that HPs were more comfortable focusing and explaining the medical model of knee osteoarthritis rather than weight management. This may reflect their biomedical training and thinking (Emilson et al 2016; Singla et al 2015).

**Weight management is a sensitive topic**

A common belief across findings in study 1, 2 and 3 was that weight management was a sensitive topic. Numerous studies have described similar results from both the perspective of HPs (e.g. Keely et al 2011; Lumley et al 2015; Stotland et al 2010) and patients (e.g. Atkinson et al 2013; Scott et al 2004).

Findings from the systematic review show that physicians are sometimes fearful of broaching the sensitive topic of weight (Gray et al 2011) as they feared damaging the doctor-patient relationship (Chisholm et al 2012; Scott et al 2004; Stotland et al 2010). In study 2 HPs also perceived weight loss discussions as sensitive (Blackburn et al 2015; Hansson et al 2011; Heintze et al 2010;) and were fearful of both offending and nagging the patient thus damaging the doctor-patient relationship (Michie, 2007). This suggests that HPs discussing weight management with KO patients have similar issues to physicians discussing weight within routine clinical consultations (Study 1). Moreover, even where
the medical implications of weight are apparent, for example there is a clear link between weight and KO (Kulkarni et al 2016) it is still challenging for HPs to raise. Though under these circumstances, for example when patients have a comorbid condition such as KO patients feel it is appropriate and kindly (Hart et al 2015).

HPs reported spending time building rapport before they broached the topic of weight (Schauer et al 2014). In study 2 dieticians suggested that their title provided a legitimate reason for discussions about weight (MacDonald-Wicks et al 2015) highlighting the sensitivity of the topic. Weight management was often the key reason for referral so no initial conversation about weight was necessary. This provides further evidence that weight management is sensitive as dieticians are perceived as experts in the field of obesity and are more confident during discussions about weight than other HPs (MacDonald-Wicks et al 2015).

Physicians were mindful not to use language that offended the patient. This concurs with study 1 as patients preferred nuanced and inferred language rather than direct language about weight. This is also supported by previous research that physicians are reticent to discuss weight as they fear embarrassing their patients (Forman-Hoffman et al 2006). In line with study 1 patients with KO reported feelings of embarrassment (Wadden et al 2000) and shame due to failed weight loss attempts. However, patients described a judgmental attitude from HPs (Craft et al 2015). A recent study investigating the views of patients’ interactions with physiotherapists suggests that patients would appreciate more understanding, appreciation and knowledge around the complexities of weight loss discussions (Setchell et al 2015). Specifically, patients described feelings of judgment and blame from their HPs, which only served to reinforce the negative perceptions they had of themselves. Research investigating the needs of obese women with fibromyalgia reported similar findings (Craft et al 2015). Consistent with our research findings overweight or obese patients in other areas of health care have reported stigmatising experiences within consultations about weight (Johnson et al 2013) and in particular MSK consultations (Setchell et al 2015). This may have implications for KO patients as we know that stigma is associated with decreased levels of motivation to exercise (Vartanian et al 2014). More effective training in the stigma surrounding obesity is needed (Fruh et al 2016; Olander & Scamell, 2016).
In study 2 HPs expressed frustration with the complex situation of the KO patient who faced a cycle of pain, reduced mobility and weight gain (Duclos, 2016). Patients with KO experienced difficulties when exercising (Hendry et al 2006) which HPs sometimes perceived as an excuse not to exercise. However, evidence suggests that patients may have inaccurate exercise beliefs, which may deter them from exercising fearing further damage to their knee (Hendry et al 2006). Findings from study 3 support this as patients were often reticent to exercise as they feared further damage to their knee. Consequently, HPs could discuss the benefits of exercise and provide tailored exercises (Gay et al 2016) or focus on altering nutritional habits (Plow et al 2014). Furthermore, in study 2 HPs did not always think that patients connected KO and obesity. This was supported by findings from study 3 which indicated that not all patients were aware that weight loss would alleviate KO pain. This finding suggests a need for HPs to clarify the link between weight loss and reduction in pain levels. For example, studies that provide information about health consequences (a behaviour change technique) have proven effective in areas such as safe sex and sun protection (Gold et al 2011; Suffoletto et al 2013).
In addition HPs need to be trained in behaviour change techniques (BCTs) to help patients break the cycle of pain, reduced mobility and weight gain (Healey et al 2014). HPs in our study were generally unaware of guidelines recommending weight management as a first line therapy for KO (McAlindon et al 2014). Previous research supports this suggesting that patients frequently received care that is not in accordance with key guidelines (Cottrell et al 2010; Egerton et al 2016; O’Brien et al 2016) in particular weight management (Smink et al 2014). This is supported by wider literature, which suggests that other HPs such as dental practitioners fail to follow guidance (Bahrami et al 2004; Eccles et al 2001; Grimshaw et al 2014).

In line with previous research HPs perceived that patients lacked the motivation to lose weight (Befort et al 2006) but did acknowledge that a continuous cycle of pain, reduced mobility and weight gain made behaviour change challenging (Jinks et al 2015). However KO patients in study 3 considered that HPs were not always appreciative of their levels of pain and were unsympathetic when they expressed frustration with behaviour change. Research investigating quality of life (QOL) in patients with KO (Bernad-Pineda et al 2014) support these findings. When HPs and patients were asked to independently rate physical health, HPs’ perceptions of patient health were significantly higher than the patient self-assessment values (Bernad-Pineda et al 2014). Similar findings have been found within wider literature suggesting HPs may underestimate pain levels experienced by patients (Fontaine et al 1999).

These findings show scope for improvement within the KO consultation as patients with a musculoskeletal condition who receive a patient centered approach are more likely to report reduced pain levels and increased mobility in comparison to a control group (Alamo et al 2002). Furthermore, HPs can motivate patients to achieve weight loss (Rose et al 2013) and may benefit from training in techniques such as motivational interviewing (Smink et al 2014).

In line with the views of HPs in study 2 patients in study 3 suggested they felt trapped in a cycle of pain (see Figure 8.2), reduced mobility and weight gain (Craft et al 2015; Gill et al 2016). Consistent with findings from study 3 patients with other musculoskeletal conditions such as fibromyalgia also report similar sequences of pain, reduced mobility and weight gain (Craft et al 2015). HPs in study 2 expressed frustration with KO patients suggesting pain was used as an excuse not to exercise. However findings from study 3
indicate HPs should adjust their expectations given the evident barriers the patients face (Craft et al 2015). Moreover, patients in study 3 reported further obstacles to weight management such as using food as a comfort to cope with pain. This is supported by previous research which suggests that patients with KO may experience both pain and mood relief when consuming highly calorific food (Somers et al 2012). Not all patients in study 3 recognised the link between successful pain relief and effective behaviour change. For example results from a randomised controlled trial suggest that a combined pain coping and weight management intervention had significant benefits for KO patients (Somers et al 2012). Highlighting the benefits of effective pain coping skills to both HPs and patients is essential to affect weight management (Somers et al 2012).

Patient-centred care and the doctor-patient relationship

A key overarching theme throughout this thesis was the issue of patient-centred care (PCC) (Stewart et al 2000). A number of different definitions of PCC have been presented in the literature (Mead & Bower, 2002) however, a patient-centred model is broadly defined as “taking an interest in the patient and investigating reasons for the visit, meeting emotional needs, strengthening the physician-patient relationship and exploring the whole person in the context of their disease” (Stewart et al 2000 p. 2).

In line with previous research physicians in study 1 described how the doctor-patient relationship provided a solid platform for communication about weight loss (Gudzune et al 2013; Ogden et al 2001). This is important as we know that a positive doctor-patient relationship can lead to improved patient outcomes (Cox et al 2011; Gudzune et al 2014) and that patients value the integration of patient-centred care (Olander et al 2015). In study 2 HPs perceived weight loss discussions as sensitive and (Blackburn et al 2015; Hansson et al 2011; Heintze et al 2010;) and were fearful of both offending and nagging the patient thus damaging the doctor-patient relationship (Michie, 2007). Evidence from study 3 supports these findings as patients were disheartened by constant references to weight suggesting it often damaged the doctor-patient relationship.

Key to the doctor-patient relationship and in accordance with previous research was the issue of ‘partnering’ (Cox et al 2011), which provided physicians with a clearer view into their patients world and motivation levels. In study 2 the HPs were also eager to please the patient and employed patient-centred techniques for example considering weight management in relation to medical, social and psychological factors (Mead & Bower,
2002). In accordance, Gudzune et al (2012) suggested that ‘partnering’ was key as it provided physicians with the opportunity to increase levels of self-efficacy within their patients. In contrast, and despite an overwhelming desire for PCC findings from study 3 suggest that HPs did not always employ PCC within the musculoskeletal field (Tallon et al 2000). Patients reported that HPs were reticent to dig deeper, failed to show active listening skills and treated them in a dismissive manner. This is of concern, as we know that patients who are worried about their condition or report feeling unwell have a stronger desire for PCC (Little et al 2001). Furthermore, employing PCC techniques within weight loss consultations has proven effective (Heintze et al 2010) and is known to strengthen the doctor-patient relationship (Pinto et al 2012).

In study 1 and 2 both physicians and HPs incorporated key aspects of patient-centred care such as empathy (Pollak et al 2011) within the consultation (Gudzune et al 2012). This is important as evidence suggests that patients value an empathetic and caring approach during weight loss discussions (Chugh et al 2013), report greater levels of satisfaction with their HP (Pollak et al 2011) and that empathy may positively influence weight loss behaviours (Cox et al 2011). In contrast, patients in study 3 suggested that HPs often failed to show an appreciation of the difficult cycle of KO and dismissed the continual challenge of weight management. Furthermore, patients and professionals may possess different models of patient-centred care. For example, a study by Kenny et al (2010) suggests that HPs and patients have different perceptions regarding the level of communication experienced during the consultation. Furthermore perceptions of empathy are often based on self-reports so may be different from the actual consultation (Derksen et al 2013).

A pivotal finding from study 3 was the topic of caring. Irrespective of age, years of diagnosis and gender, patients with KO discussed the importance of having a HP that cared about their needs and took the time to get to know them (Flynn, 2016). This is in line with previous research which suggests that patients have a clear idea of what constitutes a caring behaviour (Flynn, 2016). Despite the value placed on the importance of caring by patients, ‘caring behaviours’ (for e.g. HP warmth and being treated as an equal) were rarely mentioned by physicians or HPs in study 1 or 2. This is concerning as we know that HPs who display caring behaviours report superior patient outcomes (Williams et al 2000). However, research investigating a heterogeneous sample of HPs suggests that HPs do value caring behaviours but are unable to agree to clarify their importance (Flynn, 2016).
What can we all do?

Findings from study 1 (Chapter 5) suggest that physicians were negative about their ability to help patients with weight management (Maryon-Davis, 2005) and found discussions about weight disheartening (Campbell et al 2000). In line with previous research reasons for this were multifactorial and caused physicians to ‘lose heart’ (Maryon-Davis, 2005, p. 97). An overview of these factors will now be discussed. Physicians’ perceived that lack of time within consultations (Campbell et al 2000; Maryon-Davis, 2005; Ruelaz et al 2007) and a perceived need to respond to the patients’ agenda limited opportunities for discussions about weight. This is supported by previous research which suggests that patients rarely present to discuss weight management alone but often with a related comorbidity that needs attention (Ossolinski et al 2015). In line with findings from study 1 HPs found discussions about weight frustrating (Ferrante et al 2009). They discussed common barriers to weight management such as lack of time (Blackburn et al 2015; Ruelaz et al 2007; Schaeur et al 2014) as well as a perceived shortage of access to external resources such as dieticians (Maryon-Davis, 2005; Schauer et al 2014) and the perception that they were too busy (Abruzzino et al 2015).

Furthermore, physicians suggested that they had few medical options available to patients. This is in line with previous research which suggests that physicians are skeptical about both the safety and efficacy of weight loss medications (Glauser et al 2015; Salinas et al 2011) and that physicians may benefit from further training in relation to behaviour change and weight loss medication (Glauser et al 2015). In concordance, patients in study 3 also reported a desire for practical support and guidance from their HP. They expressed a need for monthly support and techniques such as goal setting to maintain motivation.

Physicians were also aware of external options for weight management and did refer patients to commercial weight loss programmes such as weight watchers. However they were suspicious regarding their efficacy. Prior research is consistent with physicians’ views. For example a recent systematic review suggests that no commercial weight loss programmes have been evaluated effectively and few demonstrate long-term efficacy and suggest physicians should concentrate on these (Wee, 2015). Furthermore, findings from study 3 suggest that patients are also reticent to engage with external options for weight management such as slimming clubs.
In agreement with previous research physicians were keen to engage dieticians and viewed them as knowledgeable sources of weight management advice (Campbell et al 2000; MacDonald-Wicks et al 2015) although some physicians were reticent to refer patients to dieticians due to a perceived shortage (Maryon-Davis, 2005). Research suggests that dieticians use more behaviour change strategies than GPs and nurses during consultations (Bleich et al 2015; Teixeira et al 2015) and that HPs are less confident in their ability to deliver weight management than dieticians (MacDonald-wicks et al 2015).

Training

Findings from across this thesis demonstrate inadequate training and skills for HPs in weight management (MacDonald-Wicks et al 2015). In study 1, physicians expressed a desire for more training in weight management. This is in line with previous research which suggests that weight management training for HPs is inadequate (Chisholm et al 2012; Huang et al 2004) and HPs not only desire weight management training (Huang et al 2004; Jay et al 2008; Jay et al 2015) but there is evidence that training increases perceived self efficacy to deliver weight management (Zhu et al 2013). Finally, physicians expressed dissatisfaction with weight management guidelines suggesting they lacked clarity. This concurs with research which suggests that physicians require guidelines that are clear about nutrition and diet (Glauser et al 2015) as well as how to conduct consultations with obese clients (Glauser et al 2015).

In concordance with study 1 HPs drew on a limited repertoire of techniques when discussing weight with KO patients. HPs reported using strategies such as providing information about weight management via web based resources as well as onward referral to dieticians. However, although some of these were evidence based e.g. goal setting (Alexanders et al 2015; Leach et al 2010) our findings suggested that many of these such as web resources were not evidence based (Schauer et al 2015) and reflected HPs’ limited repertoire of behaviour change techniques when discussing weight (Dietz, 2015). Moreover, most HPs had received very limited training and were under confident when discussing weight (Blackburn et al 2015). This is in line with findings from study 3 which suggest that patients were skeptical about their HPs ability to deliver advice about weight. Moreover, patients perceived that HPs lacked appropriate expertise and knowledge when discussing weight and reported receiving suboptimal advice. However, findings from a recent systematic review suggest that HPs for e.g. musculoskeletal physiotherapists do value the use of behaviour change techniques within consultations but suggest they are
underutilized and poorly understood (Alexanders et al 2015). Similar findings are reported within nursing (Fillingham et al 2013) and general practice (Teixeira et al 2012). In concordance, findings from study 3 suggest that patients are also in favour of training for HPs when discussing weight, in particular focusing on ways in which the topic is broached. HPs within rheumatology provide care to large numbers of patients with KO (Tallon et al 2000) providing a window of opportunity for HPs to discuss behaviour change. However, with poor understanding and training these opportunities will be poorly utilised (Dietz, 2015). Effectively, HPs that have undergone training in behaviour change techniques report increased confidence and utilisation (Blackburn et al 2015; MacDonald-Wicks et al 2015) suggesting obesity training is essential for HPs (Glauser et al 2015).

8.3. Key Strengths and Limitations

A key strength of this thesis is the use of qualitative methodology. The thematic synthesis provided the first overview of physicians’ experiences of discussing weight management within routine consultations thus adding novel findings to this research area (Britten, 2011). Furthermore, qualitative research is often criticised for employing small sample sizes within research studies (Sandelowski, 1995). However, this synthesis captured physicians’ views from 16 individual studies generating views from larger samples. Finally, the findings from the synthesis contribute to the thesis as a whole. There is considerable overlap between the views of physicians in study 1, the views of HPs in study 2 and the experiences of patients in study 3 showing that findings from this thesis are applicable in different contexts.

Study 2 and 3 employed semi-structured interviews. This allowed for an in depth exploration (Dickson-Swift et al 2006) of HPs and patients experiences of discussing weight. Employing qualitative interviews provides the researcher with a unique perspective into the person’s life. Weight management is a sensitive topic and interviews provide an ideal platform to explore delicate subjects (Elmir et al 2011). Reasons for this include opportunities to build rapport (Elmir et al 2011), self-disclosure (Booth & Booth, 1994) and reciprocity with the participant (Dickson-Swift et al 2006). Furthermore interviews are a flexible tool (Rabionet, 2011) that allow the researcher to probe (Gill et al 2008) especially when there is a paucity of research in the area (Gill et al 2008).

Finally, looking at HPs and patients separately allowed this thesis to identify patterns and similarities between the experiences of both physicians, HPs and patients. In line with previous research (Chisholm et al 2012) weight management was identified as a sensitive
topic. This shows that even when there is a clear link between obesity and a comorbid condition such as KO (Kulkarni et al 2016) discussions about weight are still challenging. Furthermore, throughout this thesis both HPs, physicians and patients expressed frustration with the topic of weight management. Despite recommendations from key guidelines suggesting all HPs should deliver weight management (McAlindon et al 2014; NICE, 2014) HPs and physicians felt ill-equipped to discuss weight and had received little training. Moreover in concordance, patients were also skeptical about their HPs ability to deliver weight management effectively. Finally, this thesis provided insight into the challenging cycle of KO from both a HP and patient perspective.

One of the main limitations is the issue of bias in both study 2 and 3. It is possible that both the HPs and patients that chose to take part may be more confident and willing to discuss the sensitive topic of weight so may not be representative of the population as a whole. Evidence suggests that HPs are more actively involved in research that interests them (Salmon et al 2007). In study 3 clinicians played an active role regarding recruitment. This is relevant as we know the patients who have a better relationship with their clinician are more likely to volunteer to take part in research (Cox et al 1999) thus may report more positive findings. Hence it is likely that findings underestimate the extent to which weight management is perceived of as a sensitive topic, the level of training needs amongst HPs but also willingness to engage in further training.

A further limitation in this thesis was the gender imbalance within study 2 and 3. In study 2 over seventy percent of HPs interviewed were female. However, evidence suggests higher numbers of females are employed in the professional roles we identified (e.g. nurses, dieticians and physiotherapists) (Rajacich et al 2013; Swift et al 2013; Williams et al 2015) suggesting the findings within this thesis are an accurate reflection of their views in general. In Study 3 significantly more female patients with KO were interviewed than males. However, data indicates that KO prevalence rates are higher in females than males (Hame & Alexander, 2013) and that women with KO report higher levels of disability (McAlindon et al 2014) and pain levels than men (Bartley et al 2016).

8.4. Practical Implications and Areas for future research

Current policy guidelines suggest a role for all HPs when addressing behaviour change (Elwell et al 2014). Documents such as ‘making every contact count’ (MECC) (NHS, 2014) encourage HPs to exploit every opportunity with patients in order to improve health
and the recent self-care agenda (Reidy et al 2016) emphasizes a shift towards increased patient responsibility for health and well-being. Furthermore, key guidelines for KO such as the National Institute for Health and Care Excellence (NICE) (NICE, 2014), Osteoarthritis Research Society International (OARSI) (McAlindon et al 2014), the American College of Rheumatology (ACR) (Hochberg et al 2012), the European League Against Rheumatism (EULAR) (Fernandes et al 2013) and the American Academy of Orthopaedic Surgeons (AAOS) (Jevsevar, 2013) all recommend weight management as a first line therapy for patients with KO.

However, findings from this thesis show that barriers exist for HPs when implementing key guidelines. Consistent with previous research many HPs in study 2 were unaware of key policy guidelines recommending weight loss for KO (Dijkstra et al 2000; Franke et al 2008; Lee et al 2014; Raaijmakers et al 2013). Lee et al (2014) found similar barriers to the management of hypertension within HPs although HPs were keen to acknowledge that training at both undergraduate and postgraduate level was likely to improve uptake. Interestingly, facilitators to implementation included education and effective communication skills.

The purpose of these guidelines is to provide a framework for all HPs who are involved in the management of KO. However, findings in this thesis demonstrate a need for more specific advice regarding weight management. For example the ACR (Hochberg et al 2012), NICE (Nice, 2014) and the OARSI (McAlindon et al 2014) fail to offer concrete examples and procedures other than ‘HPs should offer advice on weight loss’ (NICE, 2014). Results from this thesis suggest that all multi disciplinary teams that treat patients with KO (physiotherapists, rheumatologists, general practitioners, nurses and occupational therapists) should be trained in behaviour change techniques or healthy conversation skills (Lawrence et al 2016). This thesis suggests that HPs currently feel ill-equipped to do so.

Secondly, key emphasis should be placed on the delivery of nutritional advice for weight management as exercise is often challenging. Ideally HPs should be trained to deliver a combination of pain coping and weight management (Somers et al 2012) to help break the vicious KO cycle (Somers et al 2012).

Addressing pain coping skills and weight management is a relevant area for future research. Physiotherapists are ideally placed to deliver weight management playing a key role in the management of KO (Prasanna et al 2013) and have both the time (Walsh et al
2009) and background in patient-centred care (Hiller et al 2015). Findings in this thesis suggest that training physiotherapists to deliver a combination of weight management and pain coping skills could help KO patients break the vicious cycle of pain, reduced mobility and weight gain. Psychological treatments for managing pain are effective (Burton & Shaw, 2015; Dixon et al 2007; Peters et al 2015) and there is reason for optimism within the area of KO (Hunt et al 2013). Furthermore, health psychologists are well placed to deliver pain management strategies and play a lead role within musculoskeletal pain management services (Nijs et al 2013). Finally, physiotherapists should be trained (as an adjunct to pain management skills) in behaviour change techniques to deliver weight management to KO patients Hunt et al 2013). Previous research shows that training general practitioners and nurses in brief behaviour change techniques derived from motivational interviewing increased patients intention and attempts to change their behaviour (Butler et al 2013).

Additionally, all HPs within the multidisciplinary musculoskeletal team should be trained to deliver healthy conversation skills (Lawrence et al 2016). Through this process clients are trained in client-centred counseling to support aspects of behaviour change such as SMART goal setting (Lawrence et al 2016; Tinati et al 2012). Evidence suggests that training in healthy conversation skills improves HPs confidence when discussing healthy eating and physical activity (Black et al 2014). Furthermore, this method can be used when consultation times are restricted, an important factor considering the increasing pressure on primary and secondary care consultations for KO (Button et al 2016). Finally, healthy conversation skills training can be delivered by health psychologists (Lawrence et al 2016).

8.5 Final Conclusions

Key policy guidelines (NICE, 2014; Fernandes et al 2013; McAlindon et al 2014) recommend that all HPs should talk to patients about weight management making every contact count. In line with previous research this thesis identified key barriers to discussions about weight such as responsibility and the sensitivity of the topic, demonstrating that barriers identified by previous research still exist. Moreover this thesis goes one step further as it demonstrates that even when the medical implications of weight loss are clear, for example with KO and obesity, similar barriers still exist. Within this thesis, views from physicians, HPs and patients suggest a high degree of congruence between what HPs think and what patients believe for e.g. responsibility, motivation and trust. For example in study 2, HPs discussed the challenges that KO patients have to address such as the vicious cycle of pain, reduced mobility and weight gain, although often
expressed frustration with their efforts. In concordance patients reported similar barriers but were eager for HPs to see the bigger picture and demonstrate empathy with their situation. Employing a more patient-centred approach with obese/overweight patients would help readdress this balance. Furthermore, findings from this thesis are similar to other areas within the musculoskeletal field (Craft et al 2015). Patients with fibromyalgia report similar barriers to weight management and a desire for increased patient-centredness (Craft et al 2015). A key finding within this thesis was that both physicians and HPs demonstrated inadequate skills and training in weight management. Moreover, patients also perceived that HPs lacked appropriate training and were not confident that HPs had the ability to deliver weight management. In order to improve patient outcomes this gap must be addressed. Furthermore, to reduce the levels of pessimism and frustration reported by both physicians, HPs and patients and to address previous barriers identified key steps should be taken to readdress the balance within the weight management consultation. Firstly, all HPs should conduct patient-centred consultations with overweight/obese patients. Secondly, if HPs are expected to deliver weight management they need training to do so. Training all HPs in healthy conversation skills (Lawrence et al 2016) or brief BCTs based on motivational interviewing (Butler et al 2013) could improve patient outcomes and increase HP confidence to deliver weight management (Forman-Hoffman et al 2006). Finally, health psychologists have the relevant skills to both deliver weight management training and to guide discussions about weight. This may reduce the pressure on HPs in both primary and secondary care whilst reducing cost in the NHS (Sniehotta et al 2014).
8.6. REFERENCES


Hart, J., Yelland, S., Mallinson, A., Hussain, Z., & Peters, S. (2015). When is it ok to tell patients they are overweight? General public’s views of the role of doctors in supporting patients’ dieting and weight management. *Journal of Health Psychology, DOI: 10.1177/1359105315571974*


Appendix 1

Research Ethics, Governance and Integrity Manager
2nd Floor Christie Building

Tel: 0161 275 2206/2046
Email: timothy.stibbs@manchester.ac.uk

ref: ethics/14070

Miss Anne Dewhurst,
School of Psychological Studies,
Room H24a
Coupland 1 Building

31st March 2014

Dear Anne,

Research Ethics Committee 2
Dewhurst, Peters; To understand health professionals' views and experiences of discussing weight management with patients with knee osteoarthritis and BMI over 25 (ref 14070)

I write to thank you for attending the meeting on 24th March and to confirm that, after the submission of amendments in your email of 27th March the above project has been given a favourable ethical opinion.

This approval is effective for a period of five years and if the project continues beyond that period it must be submitted for review. It is the Committee’s practice to warn investigators that they should not depart from the agreed protocol without seeking the approval of the Committee, as any significant deviation could invalidate the insurance arrangements and constitute research misconduct.

I would be grateful if you could complete and return the attached form at the end of the project or by the end of March 2015.

Yours sincerely

[Signature]

Dr T P C Stibbs
Secretary to the University Research Ethics Committee

Enclosed: Report form
Appendix 2

Interview schedule-health professionals

To understand health professionals’ views and experiences of discussing weight management with patients with knee osteoarthritis and a BMI of over 25.

The order and exact content of the questions will be determined by the structure and progress of the interview, and will be informed by on going analysis. The following topics and prompts serve as an initial interview guide.

Participant demographics

Do you mind me asking ….

- Ask for age
- Ask for ethnicity
- Country of birth?
- Ask for gender
- Country of birth
- What is your profession and current role?
- What year did you qualify as a/an x and then as a ?
- What type of practice do you work in? (e.g. training practice)
- What is your list size?
- Do you have a discipline/ specialty?
- What are the number of full time GPs in your practice?
- What region are you in ? (e.g. Preston)

Subject area 1: Beliefs about knee osteoarthritis and weight

- Could you tell me what you think is the link (if at all) between KO and obesity?
- What expectations do you have about communicating with patients about weight management? (easy, comfortable, difficult)
- Think about the last time you came across a patient with KO and a BMI of over 25? Could you describe them? What did you talk about?

Subject area 2: Experiences of communication about weight management

- How often do you talk about weight management with patients in general? With patients who have knee osteoarthritis?
- Who would initiate this type of discussion? What would prompt this?
- If it was you initiating talk about weight, how would/do you introduce the topic of weight management? What would/did you say? (Can you give me an example)?
- If sometimes you don’t introduce the topic of weight management can you tell me what the barriers might be?
- What approach do you feel works best when talking to patients about weight management?
• How would you sum up your experiences of communication with patients with KO/obesity in general?

• Can you think of a patient that you helped lose weight. Tell me what happened. What do you think worked in this situation?

• Can you think of a patient that you didn't help you lose weight. Tell me what happened. Why don't you think they didn’t lose weight?

• Can you think of any patients that if you had spoken to them about weight management say (10 years ago) then they wouldn't have ended up with KO?

Subject area 3: Training/resource needs (e.g. knowledge/availability of resources that they can direct people to).

• What, if any, training have you received in weight management? Tell me about this. Probe for how and by whom it was delivered, content of training, how (if) it’s been used within clinical practice.

• What information/resources do you have available to help patients with weight management? Probe for which resources are used and how they are used in clinical practice.

• How do you think weight management training could be improved in the future?

• What challenges do you (or your team) face relating to either weight management or KO that could be resolved with training?

• Who would you like to deliver the training?

• Is there anything that I haven’t asked you that you would like to add/say?

Close by thanking them very much for their time and if there is anything they would like to ask.
PARTICIPANT INFORMATION SHEET
(HEALTH PROFESSIONALS)

Title of project: Understanding health professionals’ views and experiences of discussing weight management with patients with knee osteoarthritis.

Introduction
The management of Knee Osteoarthritis (KO) can provide challenges for both patients and health professionals. There is a close association between weight and KO and weight loss has been advised as this can be useful to alleviate symptoms. However, weight management can be a difficult topic to raise. Relatively little training in the area of weight management is available for health professionals. In order to develop future training we need to understand the current views and experiences of health professionals when talking to overweight/obese patients with knee osteoarthritis and their learning needs. It is hoped that through this research we will have an improved understanding of communication about weight management within this patient group and that this information could then lead to improvements in practice.

What will I be asked to do if I take part?
If you decide to participate you will be invited to attend an interview to discuss your views and experiences of patients presenting with knee osteoarthritis and a body mass index of over 25. We are interested in learning your views and experiences of discussing weight management within a consultation such as how you introduced the topic and how you think it went. The interview will be semi-structured and so the duration will be flexible but expected to last around 30 minutes. You will be free to talk as little or as much as you would like about the questions raised. Each participant will receive a £20 Marks & Spencer voucher as a thank you for their contribution.

Why have I been chosen?
You have been chosen because you have relevant experience and we are interested in your views. We aim to recruit 25 health professionals overall to interview about their views and experiences of discussing weight management with patients that have knee osteoarthritis and a BMI of over 25.

Where will the research be conducted?
Interviews will be conducted at a location that is convenient to you, for example in your workplace, in your home or at the University. If it is more convenient for you to be interviewed over the telephone then this can also be arranged.

Will my data be confidential?
Yes, all data collected will remain confidential at all times. If you decide to participate you will be given a unique and non-identifying ID number. Any identifying information within the interview (e.g. your own or any patient names)
will be removed from the digitally recorded transcripts. Following the interview the audiotape will be transcribed and then destroyed. Only the study investigators will be able to match your transcript to your consent form. All data will be stored in a locked file for 10 years after the study and then destroyed.

**Do I have to take part?**

You are not obliged to participate in this study. If you decide to take part and subsequently change your mind, either before you start the study, during it or afterwards, you can withdraw without giving your reasons, and, if you wish, your data will be destroyed.

**What if something goes wrong?** If there are any issues regarding this research that you would prefer not to discuss with members of the research team, please contact the Research Practice and Governance Co-ordinator by either writing to 'The Research Practice and Governance Co-ordinator, Research Office, Christie Building, The University of Manchester, Oxford Road, Manchester M13 9PL' by emailing: Research.complaints@manchester.ac.uk, or by telephoning 0161 275 7583 or 275 8093.

**Where can I obtain further information if I need it?**

For any further information about the study please contact Anne Dewhurst at anne.dewhurst@postgrad.manchester.ac.uk or If you wish to discuss any of the issues brought up by the interview further you may wish to contact the following support groups: www.arthritisresearchuk.org Tel: 0300 790 0400, www.arthritis.org.uk Tel: 0808 800 4050, www.weightconcern.org.uk Tel: 0207 679 6636 and www.nhs.uk/livewell/loseweight.

This project has been approved by the

University of Manchester Research Ethics Committee
Title of Project: To understand health professionals’ views and experiences of discussing weight management with patients with knee osteoarthritis and a BMI of over 25.

CONSENT FORM

If you are happy to participate please complete and sign the consent form below

Please

Initial

Box

I confirm that I have read the attached information sheet on the above project and have had the opportunity to consider the information and ask questions and had these answered satisfactorily.

I understand that my participation in the study is voluntary and that I am free to withdraw at any time without giving a reason and without detriment to any treatment/service

I understand that the interview will be audio-recorded

I agree to the use of anonymous quotes

I agree that any data collected may be passed to other researchers within this research team

I agree to take part in the above project

Name of participant ___________________________ Date ___________________________ Signature ___________________________

Name of person taking consent ___________________________ Date ___________________________ Signature ___________________________
Appendix 5

Content of recruitment letter/email

Project title:
To understand health professionals’ views and experiences of discussing weight management with patients with knee osteoarthritis and a BMI of over 25.

Dear [name of participant]

I am a PhD student studying health professionals’ and patients’ experiences of discussing weight management in relation to knee osteoarthritis. I am looking to recruit a small sample (approximately 25) health professionals who work with patients with knee osteoarthritis e.g. GPs, nurses, rheumatologists, physiotherapists, occupational therapists etc. I would very much like to hear about your experiences of managing patients with knee osteoarthritis. This would involve a brief (30 minute) discussion at a time of your choosing (via phone or face-to-face). If you would like to take part please let me know (self-replied envelope enclosed). I will contact you next week to see what you think.

Best wishes and thank you in advance for your time

Anne Dewhurst

Email: anne.dewhurst@postgrad.manchester.ac.uk

Phone: 0161 3061751

Address:
Room H24a
School of Psychological Sciences
Coupland Building 1
Coupland Street
University of Manchester
Oxford Road
M13 9PL
Knee osteoarthritis and weight management

We are interested in hearing about your views and experiences

This research project explores health professionals' views and experiences of discussing weight management in relation to knee osteoarthritis.

Taking part in this study involves talking with a researcher about your views, experiences and opinions of patients with knee osteoarthritis who have a BMI of over 25. It is not a test of your knowledge – we are interested in talking to you. The discussion will take place at a time and place that is convenient to you and will last approximately 30 minutes. The interview will be flexible, meaning you will be free to talk as little or as much as you would like on the topics raised. The interview can be either face to face (in a location of your choice) or over the telephone.

For more information on this study or if you would like to take part contact:

Anne Dewhurst (PhD Student): anne.dewhurst@postgrad.manchester.ac.uk

or telephone 0161 3061751

THIS PROJECT HAS BEEN APPROVED BY THE UNIVERSITY OF MANCHESTER SCIENCES RESEARCH ETHICS COMMITTEE
Dear

This is just a short note to say thank you for participating in my research study to understand the views and experiences of health professionals discussing weight management with patients with knee osteoarthritis, it really was much appreciated. I enclose a £20 Marks and Spencer voucher as a thank you and by way of acknowledgement of safe receipt I would be grateful if you could please sign below and return the bottom half of this letter. A stamped self-addressed envelope is enclosed for your use.

Best wishes and thank you once again

Anne M Dewhurst

This is to certify that I __________________________

have received a £20 Marks and Spencer voucher as a thank you for participating in the above research

Signed _____________________

Date ____________
13 March 2015

To whom it may concern

This is to confirm that, where appropriate, insurance policies held by the University of Manchester will cover the research project entitled *To understand patients’ views and experiences of discussing weight management with a health professional when they have a clinical diagnosis of knee osteoarthritis and a BMI over 25* which we have been informed is being conducted by Anne Dewhurst under the supervision of Dr Sarah Peters.

The University has insurance available in respect of research involving human subjects that provides cover for legal liabilities arising from its actions or those of its staff or supervised students. The University also has insurance available that provides compensation for non-negligent harm to research subjects occasioned in circumstances that are under the control of the University.

Provision of this insurance cover in respect of a specific project may be subject to the acceptance of the project by the University’s insurers and is conditional upon the project receiving approval from an appropriate ethics committee.

Signed on behalf of the University of Manchester,

Lynne MacRae
Research Practice Coordinator
Faculty of Medical & Human Sciences

Dated: 13.03.2015

The University of Manchester, Oxford Road, Manchester M13 9PT. Royal Charter Number: RC000797
Appendix 9

CERTIFICATE FOR CLINICAL PLACEMENT

(TO WHOM IT MAY CONCERN)

NAME: Anne Dewhurst

DOB: 11.4.72

COURSE: PhD

YEAR OF ENTRY: 2012

THIS IS TO CONFIRM THAT BASED ON MEDICAL INFORMATION AVAILABLE, THE ABOVE NAMED STUDENT IS MEDICALLY SUITABLE TO COMMENCE CLINICAL PLACEMENT.

Additional comments if appropriate:

currently undergoing vaccination programme.

Review: 15th Sept 2014 at 1:30pm

Signature: [Signature] Date: 3.4.14

Occupational Health Nurse/Adviser

STUDENT DECLARATION:

I undertake to inform the Occupational Health Service as soon as possible of any change in my medical circumstances between the date signed and the beginning of my Clinical Placement.

Signature: [Signature] Print Name: Anne Dewhurst

The University of Manchester, Oxford Road, Manchester M13 9PL Royal Charter Number: RC000797

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Appendix 10

Section 7
This section should be completed by HR in the Lead NHS organisation, only if additional checks are undertaken.

The following additional checks have been completed:

Having confirmed that the necessary additional pre-engagement checks have been completed, I am satisfied that the above named researcher is suitable to carry out the duties associated with their research activity outlined in this Research Passport.

Signed:  
Name:  
Job Title:  
Organisation:  
Department:  
Email:  

Section 8 - For Office Use Only
This section should be completed by the NHS R&D office that received the initial application. The NHS R&D office must countersign and date retained photocopies of the documents. The grey section must be completed before the form is returned to the applicant.

<table>
<thead>
<tr>
<th>CV reviewed?</th>
<th>Yes ☑ No ☐</th>
<th>Training?</th>
<th>Yes ☑ No ☐</th>
<th>Evidence of qualifications?</th>
<th>Yes ☑ No ☐</th>
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<tr>
<td>Professional registration details reviewed?</td>
<td>Yes ☐ No ☐ N/A ☒</td>
<td>Occupational health clearance reviewed?</td>
<td>Yes ☑ No ☐ N/A ☒</td>
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<tr>
<td>Criminal record disclosure reviewed?</td>
<td>Yes ☑ No ☐ N/A ☒</td>
<td>Date of disclosure: 27/12/2015</td>
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For regulated activity as defined in the Safeguarding Vulnerable Groups Act 2006, as amended (in particular by the Protection of Freedoms Act 2012), did the criminal record disclosure confirm a satisfactory check against the appropriate ISA barred list(s) Yes ☐ No ☐ N/A ☒

Enter Electronic Staff Record Number (if issued):  
Confirmation of valid Research Passport:  
Project specific ☑ Three-year ☐ Other End date ☐ Date:  
Signed:  
Name:  
NHS Organisation Name and contact details  

Date Honorary Research Contract/letter of access issued (delete as appropriate)
Miss Anne Marie Dewhurst  
PhD student  
University of Manchester  
H24a, School of Psychological Sciences,  
Coupland Building 1  
Coupland Street, Oxford Road  
Manchester  
M13 9PL

Dear Miss Dewhurst

Study title: To understand patients’ views and experiences of discussing weight management with a health professional when they have a clinical diagnosis of knee osteoarthritis and a BMI of over 25.

REC reference: 15/NE/0139  
IRAS project ID: 170609

Thank you for your letter of 11 May 2015, responding to the Proportionate Review Sub-Committee’s request for changes to the documentation for the above study.

The revised documentation has been reviewed and approved by the sub-committee.

We plan to publish your research summary wording for the above study on the HRA website, together with your contact details. Publication will be no earlier than three months from the date of this favourable opinion letter. The expectation is that this information will be published for all studies that receive an ethical opinion but should you wish to provide a substitute contact point, wish to make a request to defer, or require further information, please contact the REC Manager Mrs Helen Wilson, nrescommittee.northeast-newcastleandnorthtyneside2@nhs.net. Under very limited circumstances (e.g. for student research which has received an unfavourable opinion), it may be possible to grant an exemption to the publication of the study.

Confirmation of ethical opinion

A Research Ethics Committee established by the Health Research Authority
On behalf of the Committee, I am pleased to confirm a **favourable ethical opinion** for the above research on the basis described in the application form, protocol and supporting documentation as revised.

**Conditions of the favourable opinion**

The favourable opinion is subject to the following conditions being met prior to the start of the study.

Management permission or approval must be obtained from each host organisation prior to the start of the study at the site concerned.

Management permission ("R&D approval") should be sought from all NHS organisations involved in the study in accordance with NHS research governance arrangements.

Guidance on applying for NHS permission for research is available in the Integrated Research Application System or at [http://www.rdforum.nhs.uk](http://www.rdforum.nhs.uk).

Where a NHS organisation’s role in the study is limited to identifying and referring potential participants to research sites ("participant identification centre"), guidance should be sought from the R&D office on the information it requires to give permission for this activity.

For non-NHS sites, site management permission should be obtained in accordance with the procedures of the relevant host organisation.

Sponsors are not required to notify the Committee of approvals from host organisations.

**Registration of Clinical Trials**

All clinical trials (defined as the first four categories on the IRAS filter page) must be registered on a publically accessible database. This should be before the first participant is recruited but no later than 6 weeks after recruitment of the first participant.

There is no requirement to separately notify the REC but you should do so at the earliest opportunity e.g. when submitting an amendment. We will audit the registration details as part of the annual progress reporting process.

To ensure transparency in research, we strongly recommend that all research is registered but for non-clinical trials this is not currently mandatory.

If a sponsor wishes to request a deferral for study registration within the required timeframe, they should contact hra.studyregistrations@nhs.net. The expectation is that all clinical trials will be registered, however, in exceptional circumstances non registration may be permissible with prior agreement from NRES. Guidance on where to register is provided on the HRA website.

It is the responsibility of the sponsor to ensure that all the conditions are complied with before the start of the study or its initiation at a particular site (as applicable).

**Ethical review of research sites**

A Research Ethics Committee established by the Health Research Authority
08 March 2016

Miss Anne Marie Dewhurst
PhD student
University of Manchester
H24a, School of Psychological Sciences,
Coupland Building 1
Coupland Street, Oxford Road
Manchester
M13 9PL

Dear Miss Dewhurst

Study title: To understand patients’ views and experiences of discussing weight management with a health professional when they have a clinical diagnosis of knee osteoarthritis and a BMI of over 25.

REC reference: 15/NE/0139
Amendment number: 1
Amendment date: 09 February 2016
IRAS project ID: 170609

The above amendment was reviewed by the Sub-Committee in correspondence.

Ethical opinion

The members of the Committee taking part in the review gave a favourable ethical opinion of the amendment on the basis described in the notice of amendment form and supporting documentation.

The Sub-committee sought clarification that the transcriber(s) involved would have signed (a) confidentiality agreement(s) as part of their employment for this task, on this study.

You confirmed that the transcriber had signed a confidentiality agreement and they were experienced in transcribing sensitive confidential interviews and handling patient data appropriately.

The Sub-committee was satisfied with your response.
8th January 2016

Miss Anne Marie Dewhurst
PhD student
University of Manchester
H24a, School of Psychological Sciences,
Coupland Building 1
Coupland Street
Oxford Road
M13 9PL

Dear Miss Dewhurst,

Re: NHS Trust Permission to Proceed

Project Reference: 170609

Project Title: To understand patients’ views and experiences of discussing weight management with a health professional when they have a clinical diagnosis of knee osteoarthritis and a BMI of over 25

I am pleased to inform you that the above project has received research governance permission.

Please take the time to read through this letter carefully and contact me if you would like any further information. You will need this letter as proof of your permission.

Trust R&D permission covers all locations within the Trust; however you will only be allowed to recruit from the sites/services you have indicated in section 3 of the SSI application form. If you would like to expand recruitment into other services in the Trust that are not on the original SSI then you must contact the R&D department immediately to discuss this before doing so.

You also must ensure you have liaised with and obtained the agreement of individual service/ward managers before commencing recruitment in that service and you must contact the relevant service/ward managers prior to accessing the service to make an appointment to visit before you can commence your study in the trust.
Wednesday, 20 January 2016

Anne Dewhurst
Room H24a,
School of Psychological Sciences,
Coupland Building 1,
University of Manchester,
Oxford Road,
Manchester,
M13 9PL.

Dear Anne,

IRAS ID: 170609
REC Number: 15/NE/0139
Lead Researcher: Anne Dewhurst
Project Title: To explore the perspectives of patients with Osteoarthritis of the knee in talking about weight with health professionals.

I am pleased to inform you that the Research & Development department approves clinics located within Blackpool Teaching Hospitals NHS Foundation Trust to be utilised in the capacity of ‘Patient Identification Center’ only for the project titled above. Approval however is based upon the following conditions:

- Details of your research project will be entered onto the database maintained by the R&D Office.

RESEARCH MATTERS AND SAVES LIVES - TODAY'S RESEARCH IS TOMORROWS CARE

Blackpool Teaching Hospitals is a Centre of Clinical and Research Excellence providing quality up to date care. We are actively involved in undertaking research to improve treatment of our patients. A member of the healthcare team may discuss current clinical trials with you.

Chairman: Mr Ian Johnson M.A., LL.M.
Chief Executive: Mr Gary Doherty
Do you have knee osteoarthritis and problems with your weight?

PARTICIPANTS REQUIRED

We are interested in hearing about your views and experiences

This study explores knee osteoarthritis patients’ views of talking about weight with health professionals.

Taking part in this study involves talking with a researcher about your views, experiences and opinions of being a patient with knee osteoarthritis who has a BMI of over 25. It is not a test of your knowledge – we are interested in talking to you. The discussion will take place at a time and place that is convenient to you and will last up to 60 minutes. The interview will be flexible, meaning you will be free to talk as little or as much as you would like on the topics raised. The interview can be either face to face (in a location of your choice) or if you prefer over the telephone.

For more information on this study or if you would like to take part contact:

Anne Dewhurst (PhD Student): anne.dewhurst@manchester.ac.uk

or telephone 0161 3061751

PROJECT APPROVED BY THE Newcastle & North Tyneside 2 REC 15/NE/0139
Appendix 16

Study Title: To explore knee osteoarthritis patients’ views of talking about weight with health professionals.

Chief Investigator: Anne Marie Dewhurst

If you are interested in taking part in this study and would like the researchers to contact you please give your details below. You should only provide the information if you are happy to be contacted in that way. For example, if you do not want to be contacted by phone then do not provide a phone number.

Please note the following points in relation to the processing of your data:

- Data will be held securely by the research team on behalf of the University of Manchester according to the University’s data protection and information security policies.
- Access to the data will be restricted to the research team for the sole purpose of contacting you about this study.
- Your data will not be shared with any third party without your written permission. Direct quotations from participants may be used within reports but will be labelled with a non-identifying ID number and all identifying patient information will be removed.
- The details collected will only be stored for as long as required to find out if you wish to take part in the study. Once no longer needed, that data will be destroyed securely.
- If you decide to change your mind about being contacted about the study or would like your details to be destroyed you can contact (anne.dewhurst@manchester.ac.uk).

Once you have completed your details, please ensure that you have added your signature and pass this document to your health professional. Please keep the top half of this document and tear off the below and return.

I am happy to provide my health care professional to provide (delete as appropriate) my contact details so that I can be contacted about this study.

<table>
<thead>
<tr>
<th>Name</th>
<th>Signature</th>
<th>Today’s date</th>
</tr>
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</table>

Please complete the details below or hand back to your health care provider to complete on your behalf:

Contact by letter

<table>
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<tr>
<th>Address</th>
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Post Code

Contact by phone

<table>
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<tr>
<th>Preferred contact number</th>
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<tr>
<td>When would you prefer to be contacted? (please circle)</td>
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</table>

<table>
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<tr>
<th>Morning/ Afternoon/ Evening/ Don’t Mind</th>
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</table>
PARTICIPANT INFORMATION SHEET

Please read the following information about the study carefully, ask me any questions you like and take the time to decide whether or not you wish to take part.

Title of project: To explore knee osteoarthritis patients’ views of talking about weight with health professionals.

Introduction: The management of knee osteoarthritis (KO) can provide challenges for both patients and health professionals. There is a close association between weight and KO and weight loss has been advised as this can be useful to help symptoms such as pain and improve quality of life. However, weight management can be a difficult topic to raise and very little is known about discussions between health professionals and patients with knee osteoarthritis. In order to develop future training we need to understand the current experiences of patients with knee osteoarthritis when talking to health professionals. It is hoped that through this research we will have an improved understanding of communication about weight management within this patient group and that this information could then lead to improvements in practice.

Why have I been invited to take part in this study?
You have been chosen because you have a clinical diagnosis of knee osteoarthritis and we are interested in your views. We aim to recruit 25 patients with knee osteoarthritis to interview about their views and experiences of discussing weight management with a health professional.

Do I have to take part?
No, you do not have to take part in the study if you do not want to. Taking part in the research is voluntary; this means it is completely up to you to decide whether or not to join the study. Your decision to participate in this study will not be connected to the care you are receiving now or in the future. If you decide to take part and sign the consent form but change your mind later, you are free to withdraw at any point during the study without giving a reason and without any consequence to your current or future treatment.

What will I be asked to do if I take part?
If you decide to participate you will be invited to attend an interview to discuss your views and experiences as a patient with knee osteoarthritis. We will firstly take your weight so we can establish and record your BMI (Body Mass Index). If you are being interviewed over the phone we are happy for you to self-report (give us an estimate of your BMI). We will then interview you to explore your experiences of discussing weight management with health professionals such as how the topic was introduced to you, if at all, and how you think it went. The interview will be expected to last up to 60 minutes. You will be free to talk as little or as much as you would like about the questions raised. Each participant will receive a £20 high street voucher as a thank you for their contribution.
Where will the research be conducted?
Interviews will be conducted at a location that is convenient to you, for example in your home, in a private room within a NHS building or private clinic or at Manchester University. If it is more convenient for you to be interviewed over the telephone then this can also be arranged.

Will my taking part in the study be kept confidential?
Yes, all data will be stored securely at the University of Manchester and will remain confidential at all times. If you decide to participate you will be given a unique and non-identifying ID number. Any identifying information within the interview (e.g. your own or any health professional names) will be removed from the digitally recorded transcripts. Direct quotes may be used in the write-up of the study, but will be used in such a way so as not to reveal the identity of individuals. Following the interview the audiotape will be transcribed and then destroyed. The interview will be transcribed by either the research team (chief investigator, Anne Dewhurst) or an experienced, trained member of the University of Manchester’s administrative staff. The transcription process will be carried out securely and in line with the University’s information security and data protection policies. Only the study investigators will be able to match your transcript to your consent form. All data will be stored in a locked file for 10 years after the study and then destroyed. Individuals from the University of Manchester, NHS Trust or regulatory authorities may need to access the data collected during this study to ensure that the research is being carried out appropriately. With your permission, this will include identifiable data. All individuals will have a duty of confidentiality to you as a research participant. However, I would need to tell someone else if I was worried about any risk of harm to yourself or someone else but I would talk to you about this first.

What are the possible benefits of taking part?
There are no direct benefits to you from taking part in the study but, the information we get might provide other people with knee osteoarthritis with better treatment in the future.

What will happen if I do not want to carry on with the study?
You can withdraw from the study completely at any time without giving a reason and without any consequence to your current or future treatment. No further data will be collected from the moment you withdraw.

What if there is a problem?
It is unlikely that anything would go wrong. But, if there is a problem, you may contact me in the first instance or you can contact my supervisor Dr Sarah Peters Sarah.peters@manchester.ac.uk Any complaint you have about the study will be resolved promptly; and information will be provided by phone or in writing to inform you of how the complaint has been addressed.

If I and my supervisors are unable to resolve your concern and you remain unhappy, or you do not want to contact us directly and you wish to make a complaint regarding the study, please contact a University Research Practice and Governance Co-ordinator on 0161 275 7583 / 0161 275 8093 or by email to research.complaints@manchester.ac.uk

What will happen to the results of the research study?
The results will be used as part of my PhD in health psychology. Following completion of the study it is anticipated that the results will be made available via peer reviewed
scientific journals, internal reports and conference presentations. Please do not hesitate to contact me if you wish to obtain a written report summarising the findings. Finally, the data collected during this study could be used to support other research. With your permission, the anonymised research data may be accessed by the research team or by other researchers and used for future studies.

Who is funding the research?
Funding has been secured via a 4 year Medical Research Council Doctoral Training Grant.

Who has reviewed the study?
All research which involves NHS patients has to be reviewed by the National Health Service Research Ethics Committee (REC). This study has been reviewed and approved by Newcastle & North Tyneside 2 REC reference: 15/NE/0139

Who can I contact for further general information if I need it?
If you wish to discuss any of the issues brought up by the interview further you may wish to contact the following support groups: www.arthritisresearchuk.org Tel: 0300 790 0400, www.arthritiscare.org.uk Tel: 0808 800 4050, www.weightconcern.org.uk Tel: 0207 679 6636 and www.nhs.uk/livewell/loseweight.

Who can I contact from the research team?
If you have any questions or require any additional information, please do not hesitate to contact me at anne.dewhurst@manchester.ac.uk or my supervisor at Sarah.Peters@manchester.ac.uk.
CONSENT FORM

Study Title: To explore knee osteoarthritis patients’ views of talking about weight with health professionals.

Chief Investigator: Anne Marie Dewhurst

1) I confirm that I have read and understand the Participant Information Sheet dated V4 09.02.16 for the above study and have had the opportunity to consider the information.

2) I confirm that I have had the opportunity to ask questions about the study and that these questions have been answered satisfactorily.

3) I understand that my participation is completely voluntary and that I am free to withdraw at any time, without giving a reason.

4) I understand that the data collected may be published as part of a research project. My identity will not be revealed in any publication.

5) I agree that the interview may be audio recorded and then written out in full (transcribed).

6) I agree that quotes from the interview may be used in publications. I understand that any quotes used will have my name and any other identifiable data removed (anonymised).

7) I understand that the information collected about me will be used to support other research in the future, and may be shared anonymously with other researchers.

8) I understand that relevant sections of data collected during the study may be looked at by individuals from the University of Manchester, from regulatory authorities or from the NHS Trust, where it is relevant to my taking part in the research. I give permission for these individuals to have access to this data.

9) I agree to take part in the above study.

Name of Participant:

Signature: Date:

Name of Researcher

Signature: Date:

When completed: 1 copy for Participant, 1 copy for Researcher site file, 1 (original) to be kept by the researcher.
Appendix 19

**Content of recruitment letter/email**

**Title of project:** To explore knee osteoarthritis patients’ views of talking about weight with health professionals.

Dear [name of HP]

I am a PhD researcher studying health professionals’ and patients’ experiences of discussing weight management in relation to knee osteoarthritis. I am looking to recruit a small sample (approximately 25) patients who have a clinical diagnosis of knee osteoarthritis and who are overweight and to conduct an interview (around 30 minutes) about their experiences of talking about weight management with health professionals. Would it be possible for you to identify patients that meet the criteria from your practice and then pass on the study details and my contact details (see participant information sheet attached)? If you would be able to help would you please let me know at (anne.dewhurst@manchester.ac.uk) or if you prefer I would be happy to meet and have a chat with you or speak on the phone at a time and place that would be convenient to you. My mobile number is 07811 726460

Best wishes and thank you in advance for your time

Anne Dewhurst

**Email:** anne.dewhurst@manchester.ac.uk

**Phone:** 0161 3061751

**Address:**
Room H24a  
School of Psychological Sciences  
Manchester Centre for Health Psychology  
Coupland Building 1  
Coupland Street  
University of Manchester  
Oxford Road  
M13 9PL
Appendix 20

Study 3 Patient Interview Schedule V1 15.1.15

Title of study: To explore knee osteoarthritis patients’ views of talking about weight with health professionals.

The order and exact content of the questions will be determined by the structure and progress of the interview, and will be informed by on going analysis. The following topics and prompts serve as an initial interview guide.

Participant demographics
- Ask for age
- Ask for ethnicity
- Ask if patient has other existing medical conditions
- How many visits to your GP/health professional have you had with your KO in the previous year or for any other health complaints?
- Ask for patient weight and height
- Ask for length patient has had knee osteoarthritis
- Are you currently employed? (Probe for occupation, full time/part time, length in present employment)
- Education (probe for high school, college, university, post graduate)
- Ask for current marital status (Probe for single, married, living with partner, separated, divorced)

Subject area 1: Beliefs about knee osteoarthritis (KO) and weight
1.1. How long you have been suffering from KO? (probe for: pre and post diagnosis)
1.2. Tell me about how you came to get diagnosed and your journey since then?
1.3. What is your understanding about what KO is?
1.4. What treatment/s have you had / do you know what is available?
1.5. What do you think the link is, if at all, between weight and KO?

Subject area 2: Experiences of communication about weight management
2.1 How do you feel about communicating with health professionals about weight management? (Probe: easy, comfortable, difficult, who initiates the dialogue between health professional and patient)?
2.2 If a health professional (for example a GP, Physiotherapist, Practice Nurse, Dietician) has introduced the topic of weight management within the consultation can you remember how they did this?
2.3 What did they say? Can you give me an example?
2.4 Are there times when weight hasn’t been discussed, if so, when?(probe for possible barriers)
2.5 How do you feel when health professionals start talking about weight management within a consultation
2.6 Did the health professionals that raised the topic of weight management seem at ease? (can you give me an example)
2.7 How did you feel when health professionals were discussing the topic of weight management with you? (uncomfortable/comfortable)?
2.8 When health professionals are talking to you about weight management how do you prefer them to be (probe for: direct, friendly, empathic, sensitive, what type of language do you prefer them to use: obese, overweight, BMI).
2.9 How would you sum up your experiences of communication with health professionals in general?

Subject area 3: Training/resource needs

3.1 Reflecting now after your consultations is there anything that they (health professionals) could have done/said differently?
3.2 Would health professionals benefit from more specialised training when talking about weight management.
3.3 What do you think could be done to improve communication between health professionals and KO patients/obese patients regarding weight management?
3.4 How do you feel about the information/resources/support available to you to help with weight management?

Subject area 4: Specific health professional characteristics

4.1 How might a health professional help you lose weight, why do you think it worked? (Probe for empathy/understanding, rapport building, communication skills, set specific goals, motivated)
4.2 Do you think if a health professional had spoken to you about weight management (many years ago) it would have made a difference (for example given you the confidence to lose weight)?
4.3 Are there any specific qualities (probe for: communication skills, empathy) that a health professional displays that may make you more likely to listen to/ be motivated by them to change when discussing weight management?
4.4 Looking back, when would be the best time a health professional could raise the topic of weight management? (probe for: during a consultation about an unrelated condition, linking to a comorbid condition such as diabetes, KO, hypertension, routine preventive check up).
4.5 Is there anything that I haven’t asked you that you would like to add or say?
4.6 Close by thanking them very much for their time and ask if there is anything they would like to ask.
Health professionals’ views & experiences of discussing weight management with patients with knee osteoarthritis.

Anne Dewhurst, Sarah Peters and Jo Hart
Manchester Centre for Health Psychology
The University of Manchester

1. Rationale

- **UK, second highest prevalence of obesity in world** (RCP, 2013) by 2030 11 million more obese. NHS cost.
- **Obesity is risk factor for osteoarthritis** (Arthritis Research UK, 2013) particularly knee osteoarthritis (KO).
- **KO associated with higher levels of disability than OA of any other joint** significant impact on morbidity & QOL (Arden et al 2013).
- **Burgeoning numbers of obese & older citizens:** rise in GP consultations for KO, 4.71 million to 5.8 million (Arthritis Research UK, 2013).
- **Growing problem/increasing pressure in primary care.**
Rationale cont.

- Close link between KO & obesity - weight loss recommended & linked reductions pain & physical disability (SR & Meta analysis of RCTs).
- Key policy documents: NICE, OARSI, ACR recommend weight management for KO patients as “first line therapy”.
- Health professionals (HPs) find weight management discussion challenging (e.g. Chisholm et al 2011).
- Supported by meta-synthesis: too difficult for patients, too difficult for HCPs, HCP-patient relationship & responsibility (Dewhurst et al 2014).
- HPs have key role in weight management communication - overweight/obese KO patients yet little known about this interaction.

Research Question:

- What are health professionals’ views & experiences of discussing weight management with patients with KO and a BMI of over 25?
2. Methods

- 26 semi-structured interviews conducted with range of health professionals in England between April & July 2014.
- 12 Face to Face & 14 Telephone interviews.
- Mean interview length = 35 minutes (range 19-72 minutes).
- Gender = 19 females & 7 males.
- Mean age = 45 years.
- All interviews audio recorded & transcribed verbatim.


<table>
<thead>
<tr>
<th>Health professional specialties</th>
<th>Number</th>
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<tbody>
<tr>
<td>General Practitioners</td>
<td>6</td>
</tr>
<tr>
<td>Physiotherapists</td>
<td>6</td>
</tr>
<tr>
<td>Consultants</td>
<td>4</td>
</tr>
<tr>
<td>Nurses</td>
<td>4</td>
</tr>
<tr>
<td>Dieticians</td>
<td>3</td>
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<tr>
<td>Occupational Therapists</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total: 26</strong></td>
<td></td>
</tr>
</tbody>
</table>
2.2 Data collection and analysis

- To gain rich insight into views of health professionals the responses are being analysed using thematic analysis (Braun & Clarke, 2006).

- Data analysis guidelines stipulated by Braun & Clarke: familiarizing yourself with data, generating initial codes & searching for themes.

- Further steps: reviewing themes & ongoing analysis to refine the specifics of each theme.

Findings

<table>
<thead>
<tr>
<th>Theme 1: What can we do</th>
<th>Theme 2: What we can do</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inconsistent delivery &amp; views</td>
<td>Training</td>
</tr>
<tr>
<td>Responsibility</td>
<td>Tools &amp; techniques</td>
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<tr>
<td>Motivation</td>
<td>Blaming the patient</td>
</tr>
<tr>
<td>Sensitive topic</td>
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</tbody>
</table>

(Figures depicting themes and their related topics are not included in the text representation.)
Theme 1: What can we do?

- Sensitive topic
- Motivation
- Responsibility
- Inconsistent delivery & views

Sensitive topic

- Hesitant to broach weight management as fear breaking rapport/upset patient.
- Broach topic of weight management gently.
- Wrap up weight management talk (heart burn patients).
- Patient centred care.
Sensitive topic

“In fact I would say always I wouldn’t dare broach weight now to me it feels like something like umm calling somebody a nigger so that’s how strong it feels to me so” [P11, GP]

“They take it a little bit personal when you start to discuss weight management it’s something that I tread quite carefully about” [P4, Physiotherapist]

Sensitive topic

“If you are having a positive conversation with someone it might be an idea to slip it in there because people do get upset when you basically put a label on them and they don’t like that you know” [P13, Nurse]

“I’ll say I understand the difficulties of losing weight I can empathise with you and try that way” [P13, Nurse]
Motivation

- HPs pessimistic about patients’ desire to lose weight
- Patients’ lacked confidence in ability
- Behaviour change is so hard

“*If I tell them that they are overweight they are like yeah and what are you going to do about it kind of thing and that is very much a patients’ attitude really*” [GP, P11].

“If they’re defensive I leave it” [Physiotherapist, P15]

“I don’t mention it because I have mentioned it so many times and umm she has not been able to make those changes” [P9, GP]
Motivation

“A lot of people don’t have a lot of faith in themselves really” [Dietitian, P20]

“You just can’t stop eating...it’s really really sticky” [Nurse, P12].

Responsibility

- Not my remit
- Patients’ responsibility
- Physical management is priority
Responsibility

“I tend to think it is a bit more a GP process than we should be spending an awful lot of time on” [P5, Rheumatologist]

“people aren’t willing to except their own responsibilities for their own health issues actually” [Physiotherapist, P4].

“the discussion I had with them really centred on the treatment options that they had I didn’t discuss weight management” [Physiotherapist, P4].

Inconsistent delivery & views

- HPs stress clear link obesity & KO
- Do patients’ connect KO and obesity?
- Weight loss and symptom reduction
- Reframing patient views
Inconsistent delivery & views

“People tend to put the arthritis down to age or other factors not necessarily admit that it’s weight” [P17, Occupational Therapist]

“I think a lot of people know that diabetes and overweight is linked but not all of them do but not at all knee osteoarthritis they don’t think it’s linked they would not tend to bring up the subject of it in the conversation” [P11, GP]

“It’s a bit the research i don’t think is quite clear is whether if you lose weight you definitely get an improvement in knee pain” [Consultant, P5]

Theme 2- What we can do

- Pleasing the patient
- Tools & techniques
- Training
Pleasing the patient

- Patient centred approach
- Fulfilling patient expectations
- The medical solution

“I get the vibe from my patients that (pause) they don’t tend to take it as well from the doctor they expect the doctor to look at the medicines and the condition” [Nurse, P12]

“Well I think if they are overweight and have bad knees they probably have more going on than just OA knee and so I would hope with all of our patients we would look at the holistic approach” [Physiotherapist, P15]
Tools & techniques

- Behavioural methods
- Hooks (comorbidities, excess baby weight, medical equipment/props, patient cues).

"If it’s a weight bearing joint and if they bring it up then that opens the door" [MSK Physiotherapist, P15].

"If they have come in with any disease where obesity could be a causative or exacerbating factor then I will generally if I can always talk about it" [GP, P6].

Sometimes I’ll just leave things like the healthy plate options... I’ll just leave them in the cubicle something like that and they’ll pick one up" [laughs]. [Physiotherapist, P16].
Training

- Weight management training v limited
- Self taught/colleagues/private research
- Desire for more training

"I don’t think I’ve ever actually had any formal training in weight management" [P13, Nurse]

"Not a huge amount of formal training, it wasn’t discussed at medical school…it’s not much discussed now I don’t think" [P5, Consultant]
Training

“I think some formal training would probably be better” (Nurse, P13)

“strategies for discussing the subject” (Physiotherapist, P14)

“It did feel a bit like a handicap not having that training” (GP, P3).

Strengths & limitations of the study

- First to look at a range of health professionals and how they view discussing weight management with KO patients/BMI of over 25.
- Parity with previous literature highlights still need for weight management training/pessimistic about their role.
- Biased data set – HPs that volunteered more interested in weight management as a topic?
- Individual practitioner samples – relatively small however similar to research findings (large quant studies).
Phase 3: research question:

To explore knee osteoarthritis patients’ views of talking about weight with health professionals.

Phase 3: Methods.

- How many interviews? 25 semi structured interviews (telephone or face to face)
- Where/how? Minerva Center, patient home or over telephone
- Length of Interview? expected to last up to an hour
- Any reward? £20 high street voucher for every participant
- All interviews audio recorded and transcribed verbatim
Interview schedule

- Beliefs about knee osteoarthritis & weight
- Experiences of communication about weight management
- Resource needs

Inclusion criteria

- Clinical diagnosis of knee osteoarthritis (do not require radiographic confirmation)
- Over 16
- Speak English fluently
- BMI of over 25
- * Having an inflammatory arthritis e.g. rheumatoid arthritis does not exclude patients from the study
Referral

- Clinicians kindly asked to identify potential patients & ask them if interested in taking part.
- Issue them with a 'participant information sheet' and if interested 'consent to contact form'
- Participants may then consent for their details to be passed on to the researcher
- AD to collect these in person from the health professionals or Joanna Cox

Analysis

- To gain rich insight into views of patients the responses will be analysed using thematic analysis (Braun & Clarke, 2006).
- Data analysis guidelines stipulated by Braun & Clarke: familiarizing yourself with data, generating initial codes & searching for themes.
- Further steps: reviewing themes & ongoing analysis to refine the specifics of each theme.
Through this research we hope to...

- Develop future training needs to understand the current experiences of patients with knee osteoarthritis when talking to health professionals about weight management.
- Gain an improved understanding of communication about weight management within this patient group and that this information could then lead to improvements in practice.

PhD summary

Phase 1: What are physicians’ views & experiences of discussing weight management within a routine clinical consultation? A thematic synthesis.

Phase 2: What are health professionals’ views & experiences of discussing weight management with patients with knee osteoarthritis and a BMI of over 25?

Phase 3: To explore knee osteoarthritis patients’ views of talking about weight with health professionals.
Thank you for listening!

Email: anne.dewhurst@manchester.ac.uk
Appendix 22.

Completed Data Extraction Form: Thematic Synthesis

<table>
<thead>
<tr>
<th>Paper ID</th>
<th>116</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date</td>
<td>21/8/14</td>
</tr>
<tr>
<td>Extracted by</td>
<td>AD</td>
</tr>
<tr>
<td>Title of Article</td>
<td>Physicians’ beliefs about discussing obesity: Results from Focus Groups</td>
</tr>
<tr>
<td>Author/s of article</td>
<td>Alexander et al</td>
</tr>
<tr>
<td>Publication Date</td>
<td>2007</td>
</tr>
<tr>
<td>Journal</td>
<td>American Journal of Health Promotion</td>
</tr>
<tr>
<td>Type of article</td>
<td>Part of a pilot study</td>
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<table>
<thead>
<tr>
<th>Study details</th>
<th>Location / Country</th>
<th>Durham, North Carolina, USA</th>
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<tbody>
<tr>
<td>Research question / Objectives</td>
<td>To examine perceptions of overweight and obesity, how they view the USPSTF guidelines for treating obesity, why weight loss discussions are not occurring regularly, and how they talk to their patients about weight loss.</td>
<td></td>
</tr>
<tr>
<td>Discipline</td>
<td>Or multi-disciplinary Physicians /health professionals dealing with overweight/obese patients</td>
<td></td>
</tr>
<tr>
<td>Participants</td>
<td>Population Family Physicians N=11 Internists N=6</td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>Not reported</td>
<td></td>
</tr>
<tr>
<td>Age (mean/range)</td>
<td>Ranged in age from 29 to 61 yrs (mean age 40.4 years; SD 9.6)</td>
<td></td>
</tr>
<tr>
<td>Gender (M/ F)</td>
<td>65% women</td>
<td></td>
</tr>
<tr>
<td>Ethnicity</td>
<td>59% White, 24% African-American, 17% Asian/Pacific Islander</td>
<td></td>
</tr>
<tr>
<td>Recruitment / sampling (inclusion criteria, response rates, diffs. between responders and non-responders)</td>
<td>Physician co-investigators (MG and LAB) emailed colleagues in Duke University Medical Center’s Department of Community and Family Medicine and Department of Medicine. Participants were told they would receive lunch and $40 for their time. Before the focus group, participants signed a consent form and completed a baseline survey to assess age, gender, race, weight and height. A social psychologist conducted the focus groups. Response rates=not reported Differences between responders and non-responders=not reported</td>
<td></td>
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<table>
<thead>
<tr>
<th>Data Collection</th>
<th>Methods</th>
<th>Focus Groups</th>
</tr>
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<tbody>
<tr>
<td>Trustworthiness</td>
<td>The physicians recruited were from academic settings so the findings need to be treated with caution/may not</td>
<td></td>
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</table>
be generalizable.

<table>
<thead>
<tr>
<th>Data Analysis</th>
<th>Method</th>
<th>Grounded Theory</th>
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<tbody>
<tr>
<td>Is it primarily descriptive?</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Is it an ‘exploratory’ study, pilot or protocol?</td>
<td>Pilot study</td>
<td></td>
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<tr>
<td>How are results presented?</td>
<td>Themes</td>
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<table>
<thead>
<tr>
<th>First order constructs (raw data from the paper) (participants)</th>
<th>Second order constructs (authors)</th>
</tr>
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<tbody>
<tr>
<td><strong>Theme 1</strong></td>
<td>Both groups raised similar concerns and issues concerning obesity and weight loss. 5 themes emerged</td>
</tr>
<tr>
<td>Outline in detail, using author’s own words (in quotation marks with page references) in describing main findings.</td>
<td>1. Responsibility</td>
</tr>
<tr>
<td>If you make your own interpretations of the data/findings, record these but clearly label as your interpretation</td>
<td>2. Barriers</td>
</tr>
<tr>
<td>“It needs to be a family-desired change as opposed to the individual desire to change…[obesity] is like smoking –if only one person wants to stop smoking, it's very hard, if not nearly impossible” (p.499)</td>
<td>3. Target populations</td>
</tr>
<tr>
<td>Another physician added:</td>
<td>4. Introducing topic</td>
</tr>
<tr>
<td>“The individual may want to do well and be willing to follow it, but ...there really is a significant resistance ...within their families and their social groups” (p.499)</td>
<td>5. Ways to talk about obesity</td>
</tr>
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<table>
<thead>
<tr>
<th>Theme 1: Responsibility</th>
<th>Theme 2: Barriers</th>
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<tbody>
<tr>
<td>Physicians raised the issue of whose responsibility it is to address obesity and weight loss. They discussed the roles the medical community, society, and family should have in dealing with obesity. Although a majority believed that obesity is a significant problem they need to address, some believed that it can only be solved at a nationwide level. Many mentioned that the high prevalence of obesity and overweight make people less likely to notice that they are overweight. The role of the family in dealing with weight was another issue mentioned:</td>
<td>Participants mentioned scarce resources, low outcome expectancies, and lack of training as key barriers to addressing obesity. Specifically lack of time was mentioned as a key barrier. Also, physicians did not believe that patients would attempt and succeed at losing weight as a result of their counseling. Finally, lack of training coupled</td>
</tr>
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with vague guidelines emerged as a barrier. Although it was mentioned that the USPSTF had issued guidelines and recommendations for treating obesity, many stated they were reluctant to follow them

<table>
<thead>
<tr>
<th>Theme 3</th>
<th>Theme 3: Target Populations</th>
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<tbody>
<tr>
<td>“huge difference between men and women. I think women in some part of their life had learned about calories, fat and grams, and the concept of balance, [while] men seemed to reach sometimes astronomical size without ever having any factual knowledge about food choices…..I’m more successful with men [because this] education is just much more valuable”. (p.499)</td>
<td>The discussion of which patients should have their weight addressed was a predominant concern. Three key target populations were mentioned: race, gender and weight. For many, race and culture, specifically African-American culture was a determinant for having discussions about weight loss. Also, gender was mentioned as another factor for determining with whom to have these discussions. As one participant mentioned, there is a: (see quote)</td>
</tr>
<tr>
<td>“For me it is the overweight patients who are easier patients to do it with because they don’t have as much to change” (p.499)</td>
<td>Finally for some the actual weight of the patient plays an important role in determining whether to discuss weight loss. Some physicians suggested that they address weight with overweight patients because they were most likely to benefit. As one family physician explained (see quote) Others felt it was more difficult to talk to overweight patients about weight loss because those patients do not believe they need to lose weight.</td>
</tr>
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<thead>
<tr>
<th>Theme 4</th>
<th>Theme 4 - Introducing Topic</th>
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<tbody>
<tr>
<td>“It is easier to go through the back door of why they are there” (p. 499)</td>
<td>For some physicians, weight loss discussions involved having patients bring it up. Although some physicians believed this was useful, not all believed that patients would initiate the topic. Many physicians raised the topic by linking patients’ comorbidities to their weight:</td>
</tr>
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<table>
<thead>
<tr>
<th>Theme 5</th>
<th>Theme 5 – Ways to talk about obesity</th>
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<tbody>
<tr>
<td>“do it over time, one step at a time” (P.500)</td>
<td>Ways to talk about obesity included providing basic knowledge, doing a little at a time, digging deeper, and referring to nutritionists and other medical specialists. In addition to discussing basic nutrition ad exercise with patients, physicians also felt it was important to talk about weight and weight loss in smaller, more</td>
</tr>
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manageable pieces:

<table>
<thead>
<tr>
<th>Theme / Concept #6</th>
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<tbody>
<tr>
<td>Memos (i.e. implications for</td>
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<tr>
<td>developing concepts and theories)</td>
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<tr>
<td>Meta-narratives (i.e. assumed</td>
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<tr>
<td>concepts and theories)</td>
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<tr>
<td>Comments (Limitations, reviewer</td>
</tr>
<tr>
<td>comments, etc.)</td>
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<tr>
<td>References – Possible new</td>
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<tr>
<td>References – For Background</td>
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