



Mental Health Inequalities among Adults with Hearing Loss: Findings from the English Longitudinal Study of Ageing (ELSA)

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Aim

To examine the relationship between depression and hearing loss among older adults at various socioeconomic strata, in a large-scale prospective panel study of a representative cohort of adults living in England aged 50 years and above.

Design

Previous studies have demonstrated that hearing loss is an independent risk factor associated with depression, regardless of age, gender, and comorbidities [1,2]. We aimed to examine this association using data from the English Longitudinal Study of Ageing (ELSA), which is a unique and rich resource of information on the health, social, wellbeing and economic circumstances of the English population aged 50 and older [3].

Methods

Self-reported hearing difficulty was defined as having declared a fair or poor hearing and/or they find it difficult to follow a conversation if there is background noise.

Elevated depressive symptoms defined using a score of greater than or equal to 4 symptoms on the 8-item dichotomous response version of the Centre for Epidemiological Studies Depression (CES-D) Scale [4]. Cross-sectional associations between self-reported and objective (available only in wave 7) hearing measures and depression were examined using multiple logistic regression models.

The longitudinal association between self-reported hearing at Wave 1 (2002/03) and diagnosis of depression up to Wave 7 (2014/15) was modelled using Cox proportional hazards regression, adjusted for sex and educational attainment.

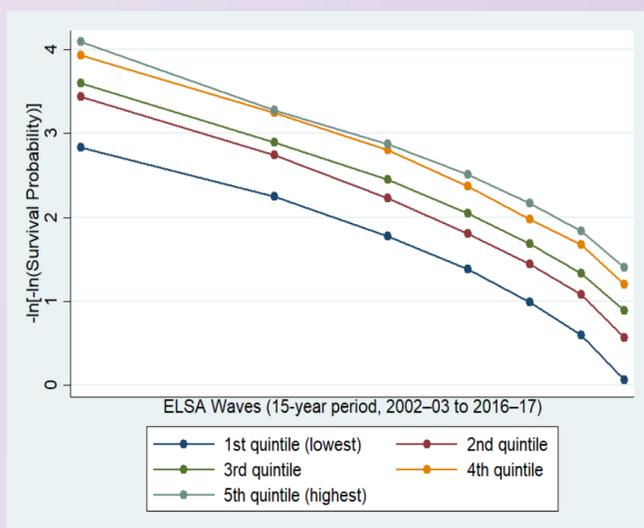


Figure 2. Kaplan-Meier curve showing the cumulative probability of elevated depressive symptoms among those with self-reported hearing difficulties, in various socioeconomic strata, over a 15-year period in the English Longitudinal Study of Ageing (ELSA).

Summary

- Hearing difficulties were associated with 36% increase of the hazard for elevated depressive symptoms, over a 15-year period in the English Longitudinal Study of Ageing and the proportional hazard was greater for those of a lower socioeconomic position.
- Our study showed that the early detection of hearing loss, which is a highly underdiagnosed chronic health condition among older adults in England, could help or delay the onset of depression. This study adds to the intelligence on the health inequality experienced by people with severe mental illness and points key areas for intervention to address the complex health and care needs of people with hearing loss.

Results

The prevalence of depression increased with time in each net financial wealth quintile in waves 1 to 7 (Table 1). In men, the increase of depression was tripled from wave 1 to wave 7 in the lowest wealth group, whereas in men in the higher wealth groups and in women across all wealth groups, the prevalence approximately doubled. In all waves, those that reported hearing difficulties were more likely to have elevated depressive symptoms comparing to those who did not report hearing difficulties (Figure 1).

The longitudinal analysis showed that, among those who had reported hearing difficulties, those of a lower socioeconomic position (SEP) had greater hazard to report elevated depressive symptoms. Also, the proportional hazard for elevated depressive symptoms among groups of different SEP was constant over time (Figure 2). Importantly, hearing difficulties were associated with 36% increase of the hazard for elevated depressive symptoms (HR=1.36, 95%CI 1.31-14.2).

Diagnosed depression (%), by wealth group and gender: waves 1 to 7								
Wealth group in 2002-03	Wave 1	Wave 2	Wave 3	Wave 4	Wave 5	Wave 6	Wave 7	Unwtd N
Men								
Lowest	4.2	7.7	10.5	11.5	12.7	14.0	14.1	172
2 nd	5.8	6.2	7.4	8.3	9.0	9.8	11.0	273
3 rd	4.8	6.1	7.6	9.1	10.0	10.9	10.9	353
4 th	4.7	6.0	5.9	6.4	7.2	8.1	8.7	449
Highest	3.6	4.0	4.5	4.7	4.9	5.3	5.5	498
Women								
Lowest	9.9	13.4	15.2	16.6	18.1	18.4	19.3	296
2 nd	6.8	8.8	10.1	12.0	13.4	13.8	14.4	410
3 rd	7.6	9.3	10.8	11.5	12.1	13.0	13.9	463
4 th	5.5	6.9	8.1	9.2	9.7	9.9	10.4	510
Highest	6.3	7.8	9.1	10.0	10.2	10.9	11.9	568

Table 1. Elevated depressive symptoms (%), by wealth group and gender: waves 1 to 7 of English Longitudinal Study of Ageing

Conclusions

Hearing loss increased the risk for depression at least twice in the full sample and three times in lower wealth groups. These findings are consistent with the hypotheses that hearing loss is likely to be driving people to depression, particularly in lower wealth groups, and that the early detection of hearing loss could help prevent or delay the onset of depression.

Our findings revealed the complex health and care needs of people with hearing loss, which is a highly underdiagnosed and untreated chronic health condition and a leading cause of morbidity among older adults in England [5, 6]. Also, increased the understanding of physical health conditions in people with mental illness.

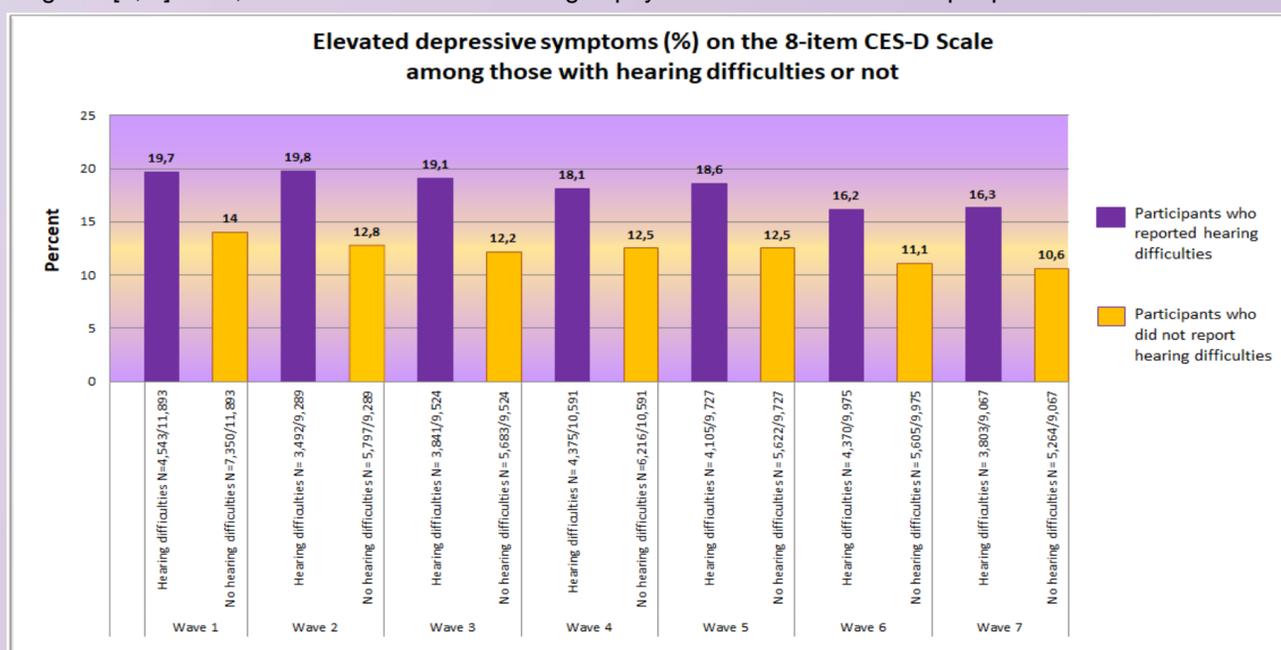


Figure 1. Elevated depressive symptoms (%) on the 8-item CES-D, over a 15-year period in the English Longitudinal Study of Ageing.

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