

Hearing loss, mental health and cognitive function during social distancing

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Social distancing in the UK

- COVID-19 outbreak caused disruption in community and social interactions
 - People >70 years were expected to ‘shield’ and limit face-to-face interactions
 - In UK, 50% of people >70y live alone
 - In UK, 70% of people >70y have hearing loss
- Social distancing great impact on people >70y in terms of mental health, loneliness and cognitive function

Aims of our research

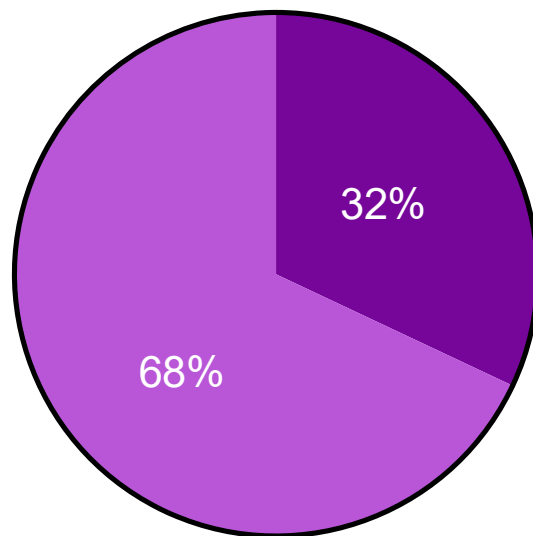
- Understand how social distancing is affecting people >70y and whether there are any differences for people with hearing loss
 - Anxiety
 - Depression
 - Loneliness
 - Cognitive function

Methods

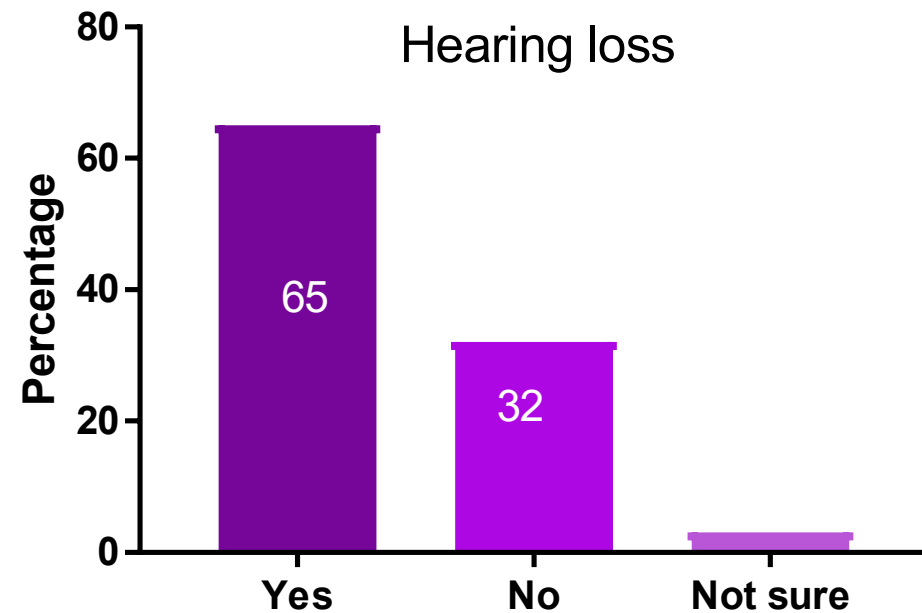
- Created an online survey
 - Hearing loss data (self-report & SSQ-12)
 - Anxiety (self-report & GAD-7)
 - Depression (self-report & PHQ-9)
 - Loneliness (DJGLS)
 - Cognitive function (self-report & PROMISv2)
- Baseline and 12-week follow up data

Preliminary Results- 90 participants

- Mean age = 75.84 (SD=5.55) [range 63-91]



Male
Female



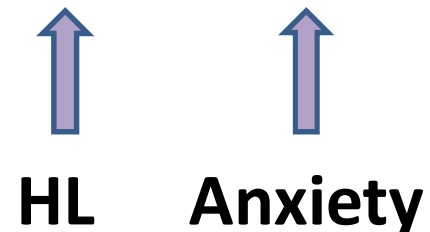
Preliminary Results- anxiety

GAD-7: scores ranged 0-17, average= 2.74 (SD=3.88)

→ Hearing loss (SSQ) is associated with greater **anxiety** during the pandemic?

Participants anxiety scores **increased by 0.34** points for each unit decrease on the SSQ (worse hearing) when controlling for age, gender and level of education.

(F (4,76)= 3.227, $p= 0.17$, $R^2 = .145$)



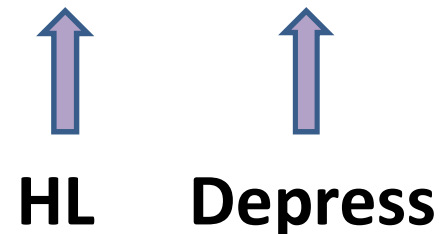
Preliminary Results- depression

PHQ-9: scores ranged 0 -21, average 4.68 (SD= 4.84)

→ Hearing loss (SSQ) is associated with greater **depression** during the pandemic?

Participants depression scores **increased by 0.67** points for each unit decrease on the SSQ, when controlling for age, gender and level of education

(F (4,77) =5.573, $p=.001$, $R^2 =.225$)



Preliminary Results- Loneliness

DJGLS: scores ranged 0-6, average 2.61 (SD=1.93)

→ Hearing loss (SSQ) is associated with greater **loneliness** during the pandemic?

Participants loneliness scores **increased by 0.22** points for each unit decrease on the SSQ, when controlling for age, gender and level of education

(F (4,76) = 4.058, $p=.005$, $R^2 = .176$)

↑ ↑
HL Lonely

Preliminary Results- cognitive function

PROMISv2: scores ranged 20.10 -68.90, average 54.08
(SD=10.28)

→ Hearing loss (SSQ) is associated with **lower scores of cognitive function** during the pandemic?

Participants perceived cognitive function **increased by 0.158 points** for each increase on the SSQ (better hearing), when controlling for age, gender and level of education.

(F (4,73) = 6.686, $p < .001$, $R^2 = .268$)

↑ ↑
HL Deficits

↑
↑
HL Anxiety

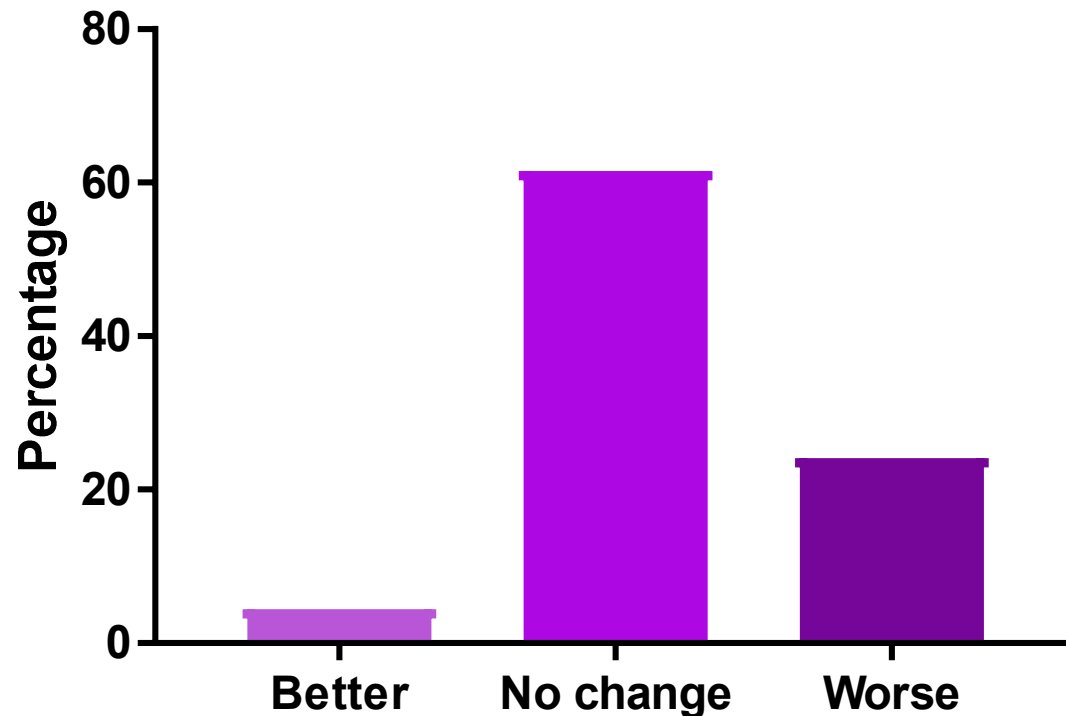
↑
↑
HL Depression

↑
↑
HL Loneliness

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↑
HL Cognitive Deficits

HAVE THESE CHANGED DURING THE PANDEMIC?

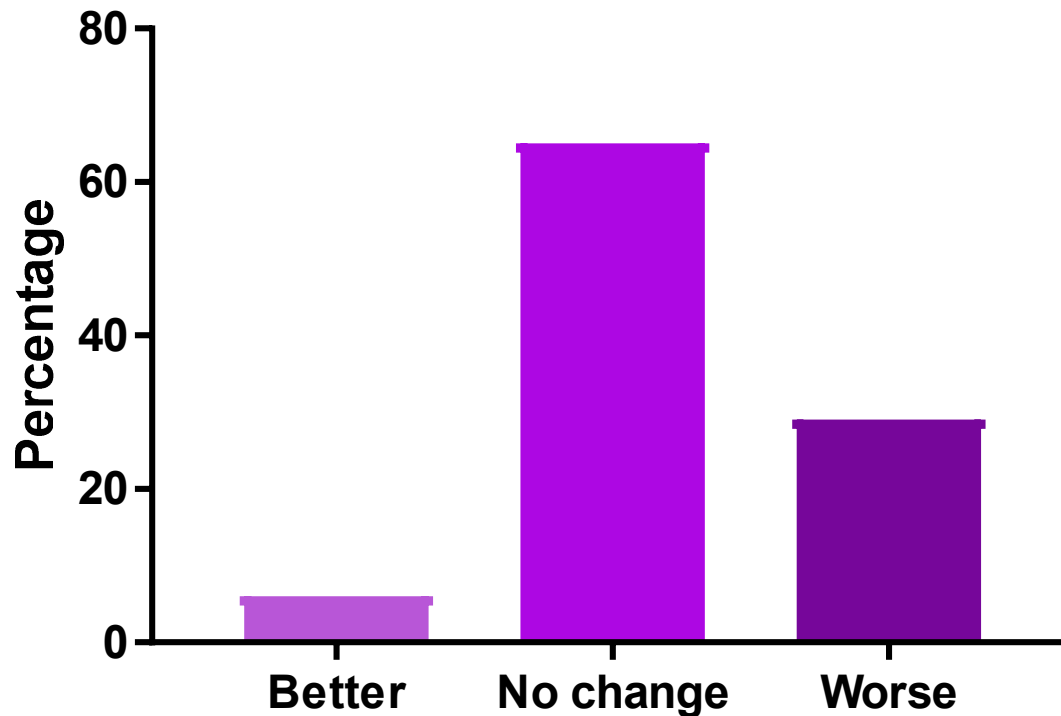
Change in anxiety



HL = increased chance →

An increase in one unit of SSQ is associated with a decrease in the odds of having a more negative change in anxiety (OR=0.97; 95% CI: (0.96, 0.99)).

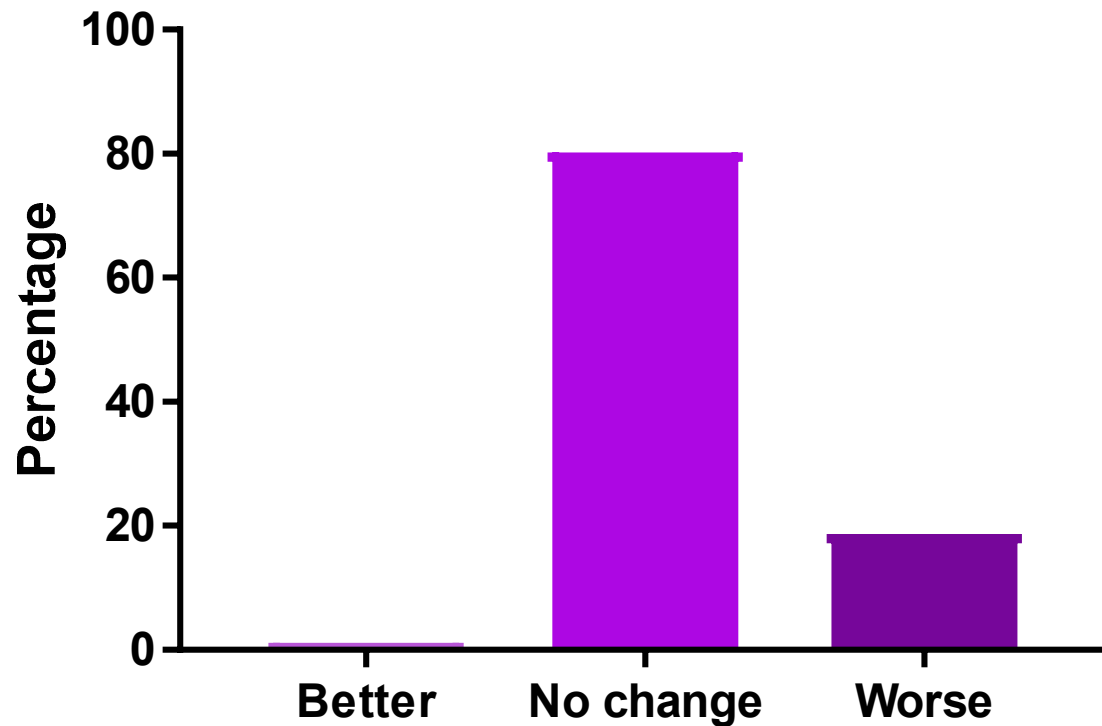
Change in depression



HL = increased chance →

An increase in one unit of SSQ is associated with a decrease in the odds of having a more negative change in depression (OR=0.98; 95% CI: (0.96, 0.99)).

Change in memory



HL = increased chance



An increase in one unit of SSQ is associated with a decrease in the odds of having a more negative change in memory (OR=0.97; 95% CI: (0.95, 0.99)).

Acknowledgements

- Thank you for joining the webinar
- Prof Chris Plack (UoM) and Prof Annalena Venneri (UoS)
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