



Subjective hearing ability, physical and mental comorbidities in individuals with bothersome tinnitus in a Swedish population sample

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Abstract:

Objective: This study investigates associations of subjective hearing ability, physical comorbidities, and mental comorbidities with bothersome (vs. non-bothersome) tinnitus and mediating effects between these influences.

Methods: The Swedish LifeGene cohort was used to sample cross-sectional survey data (collected 2009-2016) of 7615 participants with tinnitus, 697 (9.2%) of whom rated their tinnitus as bothersome. Associations between bothersome tinnitus and subjective hearing ability, physical and mental comorbidities were investigated by separate age- and gender-adjusted multiple logistic regression models. Interrelationships between these associations were investigated by logistic mediation models.

Results: Compared to non-bothersome tinnitus, bothersome tinnitus was associated with higher age, reduced subjective hearing ability, hearing-related difficulties in social situations, cardiovascular disease, chronic shoulder pain, thyroid disease, Ménière's disease, depression, anxiety syndrome, and social anxiety. Subjective hearing impairment or hearing-related difficulties mediated 13-36% of the effects of mental comorbidities on bothersome tinnitus. Depression or anxiety syndrome mediated 5-8% of most relationships between physical comorbidities and bothersome tinnitus. Depression, anxiety syndrome, or social anxiety mediated 2-4% of the effects of subjective hearing impairment or hearing-related difficulties on bothersome tinnitus.

Conclusion: Psychological factors, subjective hearing impairment, and hearing-related difficulties in social situations play key roles in predicting bothersome (vs. non-bothersome) tinnitus in a large population sample. Psychological factors contribute to explaining the impact of physical comorbidities and hearing-related effects on bothersome tinnitus. This highlights their transdiagnostic importance for aggravating varied physical symptom clusters. Interventions to improve or prevent high tinnitus burden should be interdisciplinary/multimodal and target auditory, physical, and psychological factors.

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