

Severe-to-Profound Hearing Loss and Mental Health: Initial Evidence that Cochlear Implantation Helps Alleviate Symptoms of Anxiety and Stress

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Abstract

Objectives: Mental-health issues accounted for 418 million disability-adjusted life years in 2019, costing the world economy approximately US\$5 trillion. Untreated hearing loss is a well-known modifiable risk factor for mental-health issues, with severe-to-profound hearing loss having the largest impact. Therefore, treatment of severe-to-profound hearing loss, namely with cochlear implantation, could help to alleviate psychological distress. However, previous studies have failed to include comprehensive measures of mental health or adequate controls. The current study thus aimed to conduct a controlled, longitudinal investigation of how cochlear implantation affects depression, anxiety, and stress levels. **Participants:** Participants were 87 adults assigned to conditions based on hearing status: normal hearing ($n = 44$), received cochlear implant ($n = 26$), or untreated hearing loss ($n = 17$). **Main Outcome Measures:** The short-form Depression Anxiety Stress Scale was given at four timepoints (baseline, three months, six months, 12 months). Data were analysed with linear mixed-effects modelling. **Results:** Results showed that cochlear implants helped to stabilise anxiety and stress symptoms, while depression symptoms were observed to worsen over time despite treatment. **Conclusion:** Our findings suggest that treatment of severe-to-profound hearing loss with cochlear implantation can help to alleviate associated anxiety and stress symptoms; associated depressive symptoms did not benefit. Due to the current study's non-randomised treatment allocation, future randomised controlled trials are required for confirmation. The present findings help inform clinical and societal interventions for mental-health issues associated with hearing loss.

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