

Scientific Dispatch #3 Hearing Aid Use and Cognition

At this point, it has been well established that hearing loss and increased risk of dementia go hand-in-hand. What we haven't yet discovered is whether correcting hearing loss with hearing aids can decrease the risk of dementia. A recent study out of the University of Melbourne in Melbourne, Australia, looked at this question.

Dr. Julia Sarant and her colleagues in Melbourne followed 99 adults between the ages of 60 and 84 with untreated hearing loss but no history or suspicion of cognitive impairment. All of the participants had mild to moderate hearing loss. They went through a cognitive testing battery to get a baseline measurement of their cognitive function. They were then appropriately fit with hearing aids. After 18 months of monitored hearing aid use, they again went through the cognitive testing battery to look for differences in performance.

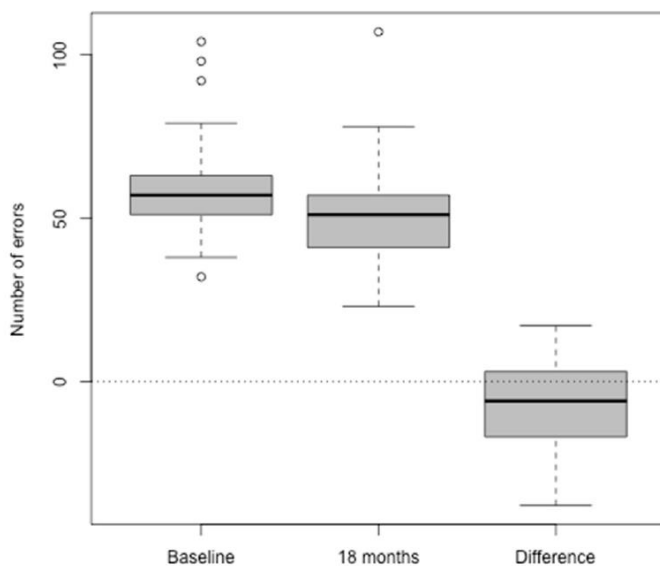


Figure 1. Executive function (GML) raw scores at baseline and 18 month assessments and their pairwise differences. The Y axis shows the number of errors in responses. The X axis shows assessment points and the difference in scores between the baseline and 18 month post-hearing aid fitting assessments. The boxes represent the observations between the first and third quartile. The hollow circles represent outliers. The bolded lines in the boxes represent the medians.

Results show a significant improvement in cognitive function, specifically executive function, across the entire group of participants, improving by 13.2% over 18 months. While there was not a control group present in this study, it is not expected that cognitive function would increase over time in an aged population who did not receive treatment. This effect was even more pronounced with participants who wore their hearing aids at least 90% of the time (measured by both self-report and by looking at the device activity-logging). Those who wore their aids for most of the day saw a 23.1% improvement over the baseline measurements. Those with more limited usage saw more limited effects, with an effect of only 5% improvement over baseline measurements.

Future studies hope to expand on these interesting initial findings by looking at larger populations of patients of more diverse backgrounds. One issue with this study is that most of the participants were highly educated (with at least a college education, and many with graduate level education), and the baseline mental health and social support measurements for these individuals was quite high. As more of these types of studies are performed, we will see whether these findings translate to other populations as well. In the meantime, these results are encouraging, and suggest the possibility that appropriately fit amplification can mitigate some of the increased risk of cognitive decline.