Technology usage among elderly with self-reported hearing disability: Results from InveCe.Ab
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Purpose Hearing loss is a common chronic condition in elderly people. We have previously showed that awareness of hearing disability in the elderly has adverse cognitive and functional consequences over time (Vaccaro, Zaccaria, Colombo, Abbondanza & Guaita, 2019). Technology (e.g. mobile phones) is successfully used by elderly people (Colombo et al., 2016) to self-manage chronic diseases, but there are not previous researches on relationship with self-reported hearing loss. We aimed at analyzing the relationships between awareness in hearing-related disability and technology usage. We hypothesize that over time old people aware of hearing disability make less use of technology and lose more instrumental activities of daily living than peers with other self-reported hearing conditions. **Method** We analyzed 1171 healthy participants in the InveCe.Ab study, a longitudinal population-based study: we selected people free from dementia, or psychiatric and neurological diseases, with complete data at baseline. Self-reported hearing disability, compared with clinician-evaluated hearing status (using the Whispered Voice Test; WVT), was categorized as: unaware of hearing loss (UHL), aware of hearing loss (AHL), only subjective hearing loss (OSHL), without hearing loss (noHL). The associations between hearing status and awareness with technology usage and instrumental daily activities were analyzed by contingency tables or by analysis of variance. Logistic regression models were performed to evaluate the predictive ability of the 4 hearing conditions (UHL, AHL, OSHL, noHL) about tech usage and functional losses 4 years later, after controlling for confounding factors (socio-demographic factors and baseline cognitive composite score). **Results and Discussion** At baseline, hearing loss was found in 13.6% (95% CI: 11.7–15.7) of the participants [17.6% (95% CI: 12.0–24.4) AHL; 82.4% (95% CI: 75.6–88) UHL], 2.3% (95% CI: 1.4–3.4) of the subjects with normal WVT hearing status had OSHL. At baseline, mobile phone usage was significantly lower in AHL and OSHL than in noHL subjects and in UHL ($p < 0.001$). Baseline IADL total score (mean ± s.d. 7.85 ± 0.72) was significantly associated with different consistency categories ($p < 0.001$). AHL and OSHL groups had lower scores than noHL ($p=0.025$ and $p=0.007$, respectively). Doing shopping, using transportation, medications management and handling finances significantly varied depending on consistency categories. Logistic regression models showed that subjects aware of their hearing disability (AHL) may have less mobile phone usage and may lose independency in doing shopping and using transportations after 4 years: two activities related to the world outside the home. Female gender and cognitive functions were associated both with mobile phone usage and instrumental activities of daily living. Besides functional and cognitive abilities, clinicians should address self-reported hearing.

References

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Figure 1. Smartphone session at Golgi Cenci Foundation