

## **287 - ANNUAL CHANGE IN HEARING LOSS AND HEARING AID USE AMONG US MEDICARE BENEFICIARIES: RESULTS FROM THE NATIONAL HEALTH AND AGING TRENDS STUDY (NHATS)**

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**Background/Rationale:** Falls and fear of falling (FoF) are common among older adults and contribute to increased morbidity, mortality, and healthcare costs. Hearing loss affects two in three people aged 70+ and has been linked to falls. However, the association of hearing loss with falls and FoF is not well-established as existing studies use heterogeneous measures for hearing loss (audiometry versus functional/self-reported), examine restricted age ranges within older adults, and frequently lack national representativeness.

**Materials and Methods:** We conducted a cross-sectional analysis of 4,708 adults  $\geq 65$  years from the National Health and Aging Trends Study (NHATS). Measured hearing loss was assessed by pure-tone audiometry (better-hearing ear's 4-frequency pure-tone average [BPTA] in decibels [dB], categorized as normal [ $\leq 25$  dB], mild [26-40 dB], or moderate or greater hearing loss [ $>40$  dB]). Functional hearing loss was defined by self-reported hearing difficulty during common activities. Fall-related outcomes included falls, recurrent falls, FoF, and activity limitation due to fear of falling. We used weighted logistic regression models adjusted for sociodemographic factors, health conditions including vision loss, and fall history to evaluate the association between hearing and fall-related outcomes.

**Results:** Overall, 56.9% had measured hearing loss, and 11.9% had functional hearing loss. Measured moderate or greater hearing loss was associated with recurrent falls (OR=2.53, 95% CI:1.57-4.07) and FoF (OR=1.50, 95% CI:1.14-1.98). Functional hearing loss was associated with falls (OR=1.40, 95% CI: 1.10-1.79), FoF (OR=1.68, 95% CI:1.26-2.22), and resulting activity limitation (OR=1.58, 95% CI:1.08-2.32). There were no associations between fall-related outcomes and hearing aid use among those with hearing loss. The association with falls was stronger with functional hearing loss in those aged 65-75 years and with measured hearing loss in those  $>85$  years.

**Conclusions:** Measured and functional hearing loss are independently associated with fall-related outcomes with distinct age-related patterns. Integrating hearing assessments could inform targeted fall prevention strategies.

**Keywords:** Hearing loss; Falls; Fear of falling; Fall prevention; Older adults