

Dietary Patterns and Hearing Loss in Older People

Authors : N. E. Gallagher, C. E. Neville, N. Lyner, J. Yarnell, C. C. Patterson, J. E. Gallacher, Y. Ben-Shlomo, A. Fehily, J. V. Woodside

Abstract : Hearing loss is highly prevalent in older people and can reduce quality of life substantially. Emerging research suggests that potentially modifiable risk factors, including risk factors previously related to cardiovascular disease risk, may be associated with a decreased or increased incidence of hearing loss. This has prompted investigation into the possibility that certain nutrients, foods or dietary patterns may also be associated with incidence of hearing loss. The aim of this study was to determine any associations between dietary patterns and hearing loss in men enrolled in the Caerphilly study. The Caerphilly prospective cohort study began in 1979-1983 with recruitment of 2512 men aged 45-59 years. Dietary data was collected using a self-administered, semi-quantitative, 56-item food frequency questionnaire (FFQ) at baseline (1979-1983), and 7-day weighed food intake (WI) in a 30% sub-sample, while pure-tone unaided audiometric threshold was assessed at 0.5, 1, 2 and 4 kHz, between 1984 and 1988. Principal components analysis (PCA) was carried out to determine a posteriori dietary patterns and multivariate linear and logistic regression models were used to examine associations with hearing level (pure tone average (PTA) of frequencies 0.5, 1, 2 and 4 kHz in decibels (dB)) for linear regression and with hearing loss (PTA>25dB) for logistic regression. Three dietary patterns were determined using PCA on the FFQ data- Traditional, Healthy, High sugar/Alcohol avoider. After adjustment for potential confounding factors, both linear and logistic regression analyses showed a significant and inverse association between the Healthy pattern and hearing loss ($P<0.001$) and linear regression analysis showed a significant association between the High sugar/Alcohol avoider pattern and hearing loss ($P=0.04$). Three similar dietary patterns were determined using PCA on the WI data- Traditional, Healthy, High sugar/Alcohol avoider. After adjustment for potential confounding factors, logistic regression analyses showed a significant and inverse association between the Healthy pattern and hearing loss ($P=0.02$) and a significant association between the Traditional pattern and hearing loss ($P=0.04$). A Healthy dietary pattern was found to be significantly inversely associated with hearing loss in middle-aged men in the Caerphilly study. Furthermore, a High sugar/Alcohol avoider pattern (FFQ) and a Traditional pattern (WI) were associated with poorer hearing levels. Consequently, the role of dietary factors in hearing loss remains to be fully established and warrants further investigation.

Keywords : ageing, diet, dietary patterns, hearing loss

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