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Do presbycusis patients use hearing aids?

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DO PRESBYACUSIS PATIENTS USE HEARING AIDS?

Abstract

Objectives: Presbycusis is known to be associated with health problems that impair quality of life such as decreased cognitive function, dementia and depression. With hearing rehabilitation, both hearing loss and health problems that can be caused by hearing loss can be prevented. In our study, it was aimed to reveal the rates of using hearing aids in patients with age-related hearing loss and the reasons for not using them.

Methods: 69 (34 female, 35 male, age mean: 64.86 years) patients with presbycusis who applied to our clinic between October 2020 and July 2022, and were recommended to use hearing aids, were included in the study. Age, gender and hearing loss levels of the patients were recorded. The patients were contacted by phone and learned whether they used hearing aids, which side they preferred, and if not, the reason (economic, adaptation problem, etc.) was learned. All results were analyzed using SPSS 21.0 software.

Results: Of the patients included in the study, 36.2% had mild, 40.6% moderate, 15.9% moderately severe and 7.2% severe hearing loss. It was determined that 28 (40.6%) of the patients used hearing aids. It was learned that 71% of the hearing aid users used a single hearing aid and 29% used bilateral hearing aids. It was found that as the level of hearing loss increased, the rate of use of hearing aids increased ($p=0.001$). When the reasons for not using hearing aids of 41 patients were questioned, it was learned that 16 (34.1%) did not want to use a hearing aid, 14 (39%) could not adapt, 7 (17.1) due to economic insufficiency, 4 (9.8%) did not need a hearing aid.

Conclusions: The rate of using hearing aids in patients with presbycusis has been learned, and it is seen that the reasons for not using it vary. There is a need for a rehabilitation and follow-up protocol regarding the use of hearing aids in patients with presbycusis.

Keywords: *presbycusis, hearing aid, hearing loss*

INTRODUCTION

Presbycusis refers to age-related, usually bilateral, symmetrical hearing loss. Since cochlear degeneration mainly affects the base of the cochlea, hearing loss at high frequencies and inability to understand spoken words are common causes of referral (1). Tinnitus often accompanies hearing loss. The most important steps in diagnosis are pure tone audiometry and speech audiometry tests.

Presbycusis is not only hearing loss, but also negatively affects the quality of life by causing limitations in social activities and deterioration in communication (2). Clinically, symptoms such as depression, anxiety, difficulty in following conversations, and insecurity are observed in patients with both hearing loss and dementia. Cognitive performance has also been found to

be negatively affected in those with hearing loss (3). In the treatment and rehabilitation of presbycusis, bone anchored devices and cochlear implants are used, although it is the most common hearing aid according to the patient's hearing loss type (4). The patient's purchase of a hearing aid is only the starting point. Training with the use of hearing aids will improve the hearing function of the person, increasing the quality of daily family and social communication, and will make the person feel good. In the absence of training on the use of hearing aids, patients often do not want to use the hearing aid, as the new auditory system cannot be adapted. Reasons for not using a hearing aid may include compatibility problems, cosmetic reasons, and economic reasons (5).

Hearing aids are frequently recommended by ENT physicians to patients with presbycusis in their daily practice. However, it is not known how the patient followed after leaving us. With this study, we wanted to emphasize our need for national follow-up and rehabilitation regarding hearing aid use. Because hearing, understanding and being understood are important at any age.

MATERIALS AND METHODS

A patient with presbycusis, aged >18 years, who applied to our clinic with presbycusis between October 2020 and July 2022, and was recommended to use a hearing aid, was included in the study. Hearing loss without age-related hearing loss and patients who could not be reached by telephone were not included. Ethics committee approval was obtained for the study (Decision no: 72867572-346). Age, gender, hearing loss levels of the patients were recorded. After the patients were informed about the study by calling by phone, it was learned whether they used hearing aids, which side they preferred, and if not, the reason (economic, adaptation problem, etc.). In our study, the reason for not using a hearing aid was questioned under four main headings: Not wanting to use a hearing aids, compatibility problem, economic reasons and not needing the hearing aids for communication. After the data were collected, the rate of buying a hearing aid, the rate of those who did not use a hearing aid, whether the level of hearing

loss and gender affected the use of hearing aids were examined. Data were analyzed using SPSS 21.0 software.

RESULTS

In our clinic, 69 of 88 patients diagnosed with presbycusis were reached. A total of 69 patients (age mean: 64,86, min:42 max:79), 34 women and 35 men, participated in the study. Of the patients included in the study, 36.2% had mild, 40.6% moderate, 15.9% moderately severe and 7.2% severe hearing loss.

It was learned that 34 (49.3%) of the patients who participated in the study received hearing aids, and 35 patients (50.7%) did not. It was observed that 50% of the patients who received hearing aids preferred hearing aids for the right ear, 20.6% for the left ear, and 29.4% for the bilateral ear. It was learned that 6 of 34 patients who received hearing aids did not use them even though they bought them. In total, 40.6% of the participants were found to use hearing aids. It was observed that as the level of hearing loss increased, hearing aid use increased ($p<0.05$). Hearing aid usage rates according to the level of hearing loss are shown in Table 1. There was no difference between genders in terms of hearing aid use ($p>0.05$).

Table 1. Hearing aid use according to hearing loss levels

Level of hearing loss	n	Usage of hearing aid	
		Yes	No
Mild	25	20 %	80%
Moderate	28	39,3%	60,7%
Moderately severe	11	72,7%	27,3%
Severe	5	80%	20%

When 41 patients who do not use hearing aids were asked about the reasons for not using them; 16 stated that they did not want to wear a hearing aid, 14 said they tried and could not

adapt, 7 said they could not get it because they could not afford it, and 4 said they did not need a hearing aid for communication for now. 4 out of 6 patients who bought a hearing aid but did not use it stated that they did not use it because they could not adapt to the hearing aid. There was no difference between the genders in terms of the reasons for not using the hearing aids ($p>0.05$).

DISCUSSION

Age-related hearing loss is an often overlooked symptom. İşitme kaybı direkt bir mortalite nedeni değildir. However, it negatively affects the concept of “healthy aging” by causing social withdrawal in the old age period.

In our study, the rate of use of hearing aids was found to be 40.6% in a limited number of patients with presbycusis who applied to our hospital in a district with a predominantly elderly population. In Turkey, according to 2019 TUIK data, the rate of using hearing aids over the age of 15 is 4.1% (6). In a study investigating the prevalence of hearing aid use in adults over 50 years of age with hearing loss in the United States between 1999 and 2006, the rate of hearing aid use was found to be 14.2%. It was stated that the rate of use of hearing aids decreased to <4% in those with mild hearing loss. It has also been reported that the rate of use of hearing aids increases every decade (7). In our study, it was found that the rate of use of hearing aids increased in those with high levels of hearing loss. The results suggested that the increase in hearing aid usage rate as the level of hearing loss increases may be related to the increased need for communication.

Many variables are effective in the use of hearing aids in patients with presbycusis. Problems encountered in the use of hearing aids in adulthood may be due to physical reasons or individual reasons (5). Bulğurcu et al. stated that reasons such as dissatisfaction with sound quality, dissatisfaction with the sound level, forgetting to use a hearing aid, deterioration of the

mold of the hearing aid, hearing aid failure, battery problem, and distorting the appearance of the hearing aid in the ear reduce the use of hearing aids (8). In our study, the reason for not using a hearing aid was questioned under four main headings: Not wanting to use a hearing aids, compatibility problem, economic reasons and not needing the hearin aids for communication. Not wanting to use hearing aids (cosmetic reasons, not wanting to wear them) was the most common reason for not using hearing aids. Then the compatibility problem (sound coming from the hearin aid, inability to adapt) comes as the reason for not using it. The reason why 17% of patients who do not use hearing aids do not use hearing aids is solely due to financial reasons. The inability to use hearing aids for economic reasons is seen as a problem that can be resolved with government agencies or non-governmental organizations. Although it was not evaluated in our study, it will be instructive to examine the effects of the education level and income level of the patients on the use of hearing aids.

Daily hearing aid usage time varies according to individual needs. In a study, 22.2% of people using hearing aids less than 1 hour a day were reported to be using them more than 8 hours a day, while 27.8% were using them (9). In addition, the duration of hearing aid use is a parameter that affects hearing aid use compliance. In a study conducted by looking at SADL (Satisfaction with Amplification in Daily Living) scores, an increase was observed in the scores as the daily hearing aid usage time increased (10).

Studies have shown that hearing loss not only affects the auditory system, but may also have clinical effects such as depression, anxiety, and decreased cognitive performance (11). It is emphasized that both audiological and psychological factors play a role in the use of hearing aids (12). In patients with presbycusis, it has been observed that the use of hearing aids significantly increases the social and emotional quality of life due to hearing loss (13). It is known that the benefit seen from the hearing aid and its effect on cognitive functions are better the higher the current cognitive level of the person (14). On the other hand, it is not yet clear

whether there is a direct relationship between the use of hearing aids and the development of cognitive functions (15).

Our study was conducted in a single center and with a single physician. The physician who recommends the hearing aid will be able to change the hearing aid usage rates of the time allocated to the patient. Multicenter prospective studies on the use of hearing aids will raise awareness in the approach to patients with presbycusis. Teaming up with not only physicians, but also audiologists, audiometrists and training nurses, even patients and their relatives, will provide great convenience in the approach to the patient with presbycusis and will be beneficial for the patient. It will increase the rate of hearing aid use when sufficient time is allocated to the patient and their relatives regarding the use of hearing aids and its benefits. In this context, it is important that healthcare professionals recommending hearing aids, hearing aid vendors and relevant government agencies are equipped and in cooperation. Establishing national audiological follow-up and rehabilitation programs by establishing a central data processing system will provide optimum benefit to presbycusis patients.

CONCLUSIONS

The rate of using hearing aids in patients with presbycusis has been learned, and it is seen that the reasons for not using it vary. There is a need for a rehabilitation and follow-up protocol regarding the use of hearing aids in patients with presbycusis.

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