The disuse of hearing aids in elderly people diagnosed with a presbycusis at an old age home, in Johannesburg, South Africa: a pilot study

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Abstract

Background: Hearing loss is the most common form of human sensory deficit with its prevalence highest within the geriatric population. Approximately a third of adults aged from 61 years exhibit the characteristics of presbycusis, a number one contributor to communication disorders among the elderly, thereby affecting the social, functional and psychological wellbeing of the elderly. Subsiquently, this leads to loneliness, isolation, dependence and frustration.

Objective: To explore reasons why elderly people diagnosed with presbycusis and fitted with hearing aids stop using hearing aids post fitting.

Method: A qualitative research design was adopted. Through purposive sampling, ten participants consisting of three males and seven females, aged between 74 and 85 participated in face-to-face and semi-structured interviews.

Results: The following themes emerged: discomfort, lack of information about hearing aids, difficulty with function and maintenance and the lack of patient involvement in the hearing aid selection process.

Conclusion: There are different reasons for disuse of hearing aids in elderly patients. Audiologists should ensure that hearing aids selection is patient specific and inclusive. Expectations of the elderly regarding hearing aids benefits and limitations should also be addressed by audiologists before fitting hearing aids.

Keywords: Elderly, hearing aids, hearing loss, audiologists.

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Introduction

Being able to communicate is a foundation of healthy ageing as communication allows people to remain cognitively and socially engaged with families, friends and other individuals in the society[1]. The inability to communicate due to hearing impairments can lead to social isolation, a significant contributor to morbidity and mortality in the elderly population[1].

Dewane[2] asserts that if there were no need to communicate every day, older adults with a hearing loss would have no problem. This statement is true, considering that communication is a basic human need[3]. This statement is even truer when considering that communication is a complex process that can be affected by age[4]. Ageing is associated with a general decline in health; therefore, elderly people tend to seek more medical attention with advancing age. At this stage, communication becomes critically, when life and physiological changes become apparent[4]. These physiological changes may include the presence of a hearing loss, which may prompt the elderly to seek assistance regarding their hearing status. It is at this stage that some elderly people are diagnosed with age related hearing loss known as presbycusis.

Presbycusis, refers to hearing loss associated with cochlear degenerative process of ageing[5]. This type of loss is always bilateral, symmetrical and progressive in nature[5-8]

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and is a number one contributor to communication disorder among the elderly.[9] It affects social, functional and psychological wellbeing, subsequently leading to loneliness, isolation, dependence and frustration[5]. Presbycusis is characterized by the loss of hearing sensitivity in the high frequencies, difficulties hearing speech in the presence of background noise, slowed central processing of acoustic information and impaired localisation of sound sources[8-10] hence the communication difficulties. If the hearing loss is left untreated, it can have a severe impact on the patients, significant others and society as a whole[11].

The diagnosis of presbycusis is primarily made by audiologists- professionals qualified in identifying and managing hearing loss. The primary management of presbycusis is through the use hearing aids[8,12], which are primarily prescribed and fitted by audiologists. While hearing aids do not restore lost sensory cells, they do provide acoustic power for declining metabolic function[8]. Sadly, in some cases, hearing aids do not yield adequate benefits[12]. Consequently, a number of patients do not use hearing aids. Gates and Mills[8] reported that 25-40% of people with hearing aids either underuse or abandon hearing aids. Fewer elderly Americans with hearing loss use hearing aids, even with the advances in technology on hearing health care[1]. Some elderly people fitted encounter different experiences with hearing amplification which directly influences their attitudes toward hearing amplification devices[1]. Therefore, the purpose of the study is to understand the reasons why elderly people fitted with hearing aids stop using hearing aids. The need for the study was informed by an observation made by an audiologist employed at an old age home, where residents fitted with hearing aids stopped using them. In order to understand the underlying reasons behind this phenomenon, and to provide audiologist's with evidence-based findings, this pilot study was undertaken.

Methodology

A qualitative research design through purposive sampling was employed to recruit participants. An audiologist working at an Old Age Home in Johannesburg was approached to act as a gatekeeper in order to identify, inform and request participation from suitable participants. When participants agreed, the audiologist forwarded contact details to the researcher for completion of the process.

Participants were recruited from a privately–funded modest age old home situated in Johannesburg, South Africa, This old age home has been in operation for approximately 100 years. This facility caters for approximately 500 residents, of whom the majority are in need of long-term medical and nursing care, hence, there is a full complement of nursing staff, general practitioners and consulting specialists. Residents have access to a variety services as physiotherapy, speech pathology, audiology, radiography, as well as recreational activities such as hairdressing and library visits.

Participants had to be 65 years and older, diagnosed with presbycusis, confirmed by the in-house audiologists and recorded as such in the patient's file; moreover, patients had to have been previously fitted with hearing aids but currently not using them. Participants who have never used hearing aids and those who were still using hearing aids were excluded from this study.

Furthermore, individuals below the age of 65 were excluded from the study. Subsequently, 10 participants consisting of three males and seven females, with ages ranging from 74 to 85 were recruited to participate in this pilot study. Data were collected through semi-structured interviews formulated by the researcher. Interviews were conducted face-to-face, in English and were approximately 45 minutes. The interviews were conducted in a private room at the old age home, over a period of three months.

Prior to commencing with the study, Ethical approval was obtained from the Human Research Ethics committee Non-Medical Protocol Number: H110922. Thereafter, permission was requested from the old age home, the resident audiologist who acted as the gatekeeper, and from participants themselves. On the days of the interviews, the researcher furnished participants with information letters and consent forms. The information letter contained details regarding the aim and nature of the study as well as ethical considerations. Participants were informed that all the information obtained will be kept confidential, any identifying information such as the participant's name will be removed; participants could withdraw from the study without any negative consequences and lastly, anonymity could not be guaranteed as the participants were referred by the resident audiologist. Consent forms were given to participants to sign, indicating that they have agreed to participate. Permission to digitally record the interviews was also requested and obtained.

Data were analysed using inductive thematic analysis as this allowed for the coding of data without trying to fit it into a pre-existing coding frame, or the researcher's analytic preconceptions and thereby allowing for themes to emerge from the data themselves[13]. The analysis of the data was in accordance with recommendations by Creswell[14].

To address any concerns pertaining to bias or subjectivity in the analysis of data as an audiologist, the author acknowledges that "all research is subject to researcher bias"[15]. Hence, a peer reviewer was requested to review some of the analysed data to confirm that there was no bias in the analysis and interpretation of results.

Results

Individuals with presbycusis encounter different experiences with hearing amplification, which directly influences their opinions and attitudes toward hearing aids. The following themes emerged: discomfort, lack of information about hearing aids, and difficulty with function and maintenance of the hearing aid.

Theme 1: Discomfort

Seven participants complained of discomfort when wearing hearing aids. Discomfort was determined in terms of pain, background noise and/or a tight fit of the hearing aid.

Subtheme 1: Pain

Three participants shared their experiences:

"*When I put it in, I'm not comfortable with it. My ear gets sore*."P1. P2 also experienced discomfort relating to pain, "*They have to shove them in and they hurt!*" while P4 stated that; "*the thing that goes inside the ear you know? It was like when you have a stone in your shoe, it was painful. When I put it in, it is painful. It is sore and I take it out for that reason*".

Subtheme 2: Background noise

The presence of background noise was also cited as one of the contributors to poor compliance.

P5 stated "*It just made a noise, all I could ever hear was noise.*" Similarly, P6 shared his experience: "*I was getting frustrated with the noise! Firstly I'm the sort of person that doesn't like a noisy background and when people are trying to talk to me and this background noise is coming through I can't hear anything.*" P8 also expressed frustration with background noise: "*I didn't count on the noise, there's more noise than anything else and I just can't get used to it. Like the generator, its right outside my window and it makes so much noise.*"

Subtheme 3: Tight fit

Lastly, concerns regarding the fit of the hearing aids were discussed.

P1 shared, "*I used to wear it every day but it's too big and thick and I'm not comfortable with it. My ear doesn't feel right with it. It's just a nuisance*". Similarly, P 2 stated, "*Well they were too big for the opening of my ear. They force them in; I think they use Vaseline to make them slippery. They were forced in and they were too tight.*"

Theme 2: Lack of information about hearing aids

To elicit responses with regard to information provided to patients during orientation, participants were asked whether they believe they were provided with sufficient information on how to care and operate their hearing aids. Six participants indicated that they were not provided with adequate information. The remaining participants could not remember, however, the majority of the participants felt that thier expectations of hearing aids were not met by audiologists. Therefore, three subthemes emerged from this theme: poor orientation, poor patient involvement and unmet expectations.

Subtheme 1: Poor Hearing aid orientation

Six participants reported during that they were not provided with adequate informatiom the hearing aid orientation process. P2 stated that he received "*no information at all! Nothing. It was a woman and she didn't give me any information she only shoved the hearing aids into my ears*." Likewise, P7 stated that he was provided with no information "*Nothing. You know you have your hearing tested. And okay. And this is the price and it will be ready on Monday Tuesday Wednesday. Came back, fitted it on and that was it.*" P9 had a similar experience "*Nothing! They just told me how to put it in and to press there and that's all they told me*". Based on the responses above, it was hard to ascertain if these participants were not provided with information or if they forgot the information. Four participants indicated that they could not remember if there were provided with adequate information.

P1 stated:, "*I cannot remember.*" Similarly, P5 responded, "*I can't recall.*" P10 elaborated on her response, "*Look I'm 85, I can't remember anything from a month ago.*"

Subtheme 2: Patient involvement

A majority of participants reported that they were not involved in the decision making process in terms of choosing their hearing aids or being informed about different options available. P8 reported "*I have a friend and he's got a tiny little thing that fits right in the ear and that is what I've been trying to get and the agent for South Africa has a firm in Edenvale, I can give you the name. It's a tiny little thing, doesn't fit over the ear, it goes right inside the ear. I didn't know there were different types to choose from. I was not told about the different options*". P3 stated "*Well, they didn't even give us an option, it was 'this is the one we have' and that was it.*"

Subtheme 3: Unmet Expectations

Six participants expressed that they were disappointed when the hearing aids did not meet their expectations. They attribute their disappointment to not being provided with sufficient information on how hearing aids function. P9 stated, "*Well I have had no benefits so far. And how you need a battery every three days I don't understand.*" P5 also reflected on her disappointment "*I was very disappointed, because I still couldn't hear*". Similarly, P6 reported, "*Well I expected it to help in the way that I wanted it to, but I wasn't happy.*" Lastly, P10 shared "*Well I thought it was going to be wonderful and I was going to hear everybody but you can't hear everybody at the same time it's impossible and its often very difficult subjects. It's not just about the cat and the dog; it's sometimes about political things*".

Theme 3: Difficulty with function and maintenance

Five participants reported difficulty with function and maintenance of their hearing aids. Difficulties included trouble with hearing aid placement, difficulties with cleaning hearing aid and/or difficulty working the controls.

Sub-theme 1: Hearing Aid Placement

P2 reported difficulty with hearing aid placement, "*I can't shove it in myself, I don't know how.*" P3 stated her similar experiences, "*I had difficulty with it because it was clumsy and I had difficulty inserting it.*"

Subtheme 2: Working the controls

P8 expressed difficulty regarding the controls on the hearing aid, "*you know what I didn't like about it was that I couldn't figure out how to make it louder or softer.*" P1 expressed related difficulties: "*I had difficulty working the controls, I didn't know how to work it.*"

Subtheme 3: Cleaning the hearing aids

Participant nine reported his struggle with cleaning the hearing aid, "*Firstly it's uncomfortable and it causes wax in the ear, and I can't be bothered cleaning it afterward.*"

Discussion

Findings shed some light regarding reasons why some elderly people fitted with hearing aids stop using hearing aids post-hearing aid fitting. Three broad themes were identified, namely discomfort, lack of sufficient information regarding hearing aids and difficulty with handling and maintaining hearing aids.

The findings highlighted a need for audiologists to take into account the mentioned aspects of hearing aid use when fitting them in the elderly population. With age, comfort plays a huge part in making life enjoyable. To ensure that elderly people, who can benefit from using hearing aids, receive the best ear care, comfort should be a standard consideration as discomfort can negatively influence the decision to use hearing aids thereby impoverishing the quality of life of elderly people[16,17].

Lack of appropriate information regarding hearing aids and difficulty with function and maintenance highlight the importance of counselling and continuous provision of information to elderly patients when fitted with hearing aids. Normal old age is associated with minor forgetfulness and a decrease in the ability to learn new information.[4,18]. When acquiring a hearing aid, individuals of the geriatric population are expected to learn and adapt to something completely unknown to them[19]. Learning new information in old age is a challenge because with old age comes accompanying difficulties such as dexterities and memory loss[19]. Dexterities can result in difficulties with fine adjustments and controlling of the hearing aid, such as fitting the hearing aid, changing the volume or cleaning hearing aid[19]. Furthermore, memory loss can result in forgetting how to maintain and care for one's hearing aid leading to dearth of use of hearing aids[19].

With advancing age, it is possible that elderly people may be unable to retain and process information provided by audiologists during consultations. Hearing aid orientation is a lengthy period and it addresses a variety of information, therefore, elderly people may forget some information they were provided. Hearing orientation provides information to the client regarding how to use and main-

tain hearing aids for best outcomes possible[20]. Therefore, coupling hearing aid orientation with counselling can be useful in addressing expectation regarding hearing aid benefits[21]. Elderly people need to be aware that, although hearing amplification provides a large amount of beneficence, there are still certain limitations, which are evident through the discrepancy when comparing beneficence of hearing amplification with normal hearing[21]. This knowledge will assist the elderly in creating realistic expectation. It is therefore important that elderly people fitted with hearing aids undergo continued counselling and follow-up sessions with audiologists to ensure they continue to use hearing aids and to address any challenges that may be experienced with hearing aids. Additionally, elderly people can be provided with strategies to strengthen their ability to remember how to use and maintain their hearing aids.

Limitations of the study

This was a pilot study, with a small sample size, therefore, the findings cannot be generalised to a larger population. Furthermore, this study was conducted at one old age home, it would be beneficial to conduct a similar study with a larger sample size at various old age homes to see trends in different contexts. Lastly, this study relied on the reports of the participants; it would have benefited the study to also incorporate observations of the practises of the residents with a hearing loss

Conclusion

The findings of this study highlighted a wide range of reasons why some elderly people diagnosed with presbycusis and subsequently fitted with hearing aids stop using their hearing aids. The three major themes that emerged highlighted the fundamental and critical aspects that audiologists need to consider when providing services to the elderly population. These findings, as evidenced by the experiences of the participants, clearly illustrate that the audiologist plays a fundamental role in the likelihood of individuals of the geriatric population wearing their hearing amplification and thus improving their quality of life.

Recommendations

The findings of this study highlight the need for audiologists to ensure that hearing aid selection is patient specific and that the patient is involved in the selection process. It is also important for the audiologist to address patient's expectations of the hearing amplification and to ensure that their expectations are realistic by clearly explaining how the hearing aid will benefit them and the challenges they may experience with their hearing aids such as background noise and feedback.

References

1. Institute of Medicine and National Research Council. Hearing Loss and Healthy Aging: Workshop Summary. Lustig TA, Olson S, editors. Washington, DC: The National Academies Press; 2014. 128 p.
2. Dewane C. Hearing Loss in Older Adults — Its Effect on Mental Health. Social Work Today. 2010;104:18.
3. Calabrese A. Human need as a justification for communication rights. *The Communication Review*. 2017;202 :98-121.
4. Robinson TE. Improving Communication With Older Patients: Tips From the Literature. *Family Practice Management*. 2006:73-8.
5. Ciorba A, Bianchini C, Pelucchi S, Pastore A. The impact of hearing loss on the quality of life of elderly adults. *Clinical Interventions in Aging*. 2012;7:159–63.
6. Heine C, Browning CJ. Communication and psychosocial consequences of sensory loss in older adults: overview and rehabilitation directions. *Disability Rehabilitation*. 2002;2415:763–73.
7. Dalton DS, Cruickshanks KJ, Klein BE, Klein R, Wiley TL, Nondahl DM. The impact of hearing loss on quality of life in older adults. *Gerontologist*. 2003;435:661–8.
8. Gates GA, Mills JH. Presbycusis. *Lancet*. 2005;366:1111–PubMed ;20
9. Frisina RD, Ding B, Zhu X, Walton JP. Age-related hearing loss: prevention of threshold declines, cell loss and apoptosis in spiral ganglion neurons. *Aging*. 2016 89:2081 PubMed –99.
10. Quaranta N, Coppola F, Casulli M, Barulli M, Panza F, Tortelli R, et al. Epidemiology of age related hearing loss: A review. *Hearing, Balance and Communication*. 2015;132:77-81.
11. Li-Korotky H-S. Age-Related Hearing Loss: Quality of Care for Quality of Life. *The Gerontologist*. 2012;522:265 PubMed -71.
12. Parham K, Lin FR, Coelho DH, Sataloff RT, Gates GA. Comprehensive management of presbycusis: Central and peripheral. *Otolaryngol Head Neck Surg*. 2013;1484.
13. Braun V, Clarke V. Using thematic analysis in psychology. *Qualitative Research in Psychology*. 2006;32:77-101.

14. Creswell JW. Research Design: Qualitative, Quantitative, and Mixed Methods Approaches
4ed. Thousand Oaks, California: SAGE Publication; 2014.
15. Morrow SL. Quality and Trustworthiness in Qualitative Research in Counseling Psychology. *Journal of Counseling Psychology*. 2005;522:250-60.
16. Mueller HG, Bentler R, Ricketts TA. Modern Hearing Aids: Pre-Fitting Testing and Selection Considerations. San Diego, CA: Plural Publishing; 2013.
17. McCormack A, Fortnum H. Why do people fitted with hearing aids not wear them? . *International Journal of Audiology*. 2013;525:360-8.
18. Fadem B. Behavioral Science in Medicine. 2 ed. Baltimore: Lippincott,: Williams, & Wilkins. ; 2012.
19. Ross M. Why people won't wear hearing aids. *Hear Rehab Quart*. 1992;172.
20. Dillon H. Hearing aids. New York: Thieme; 2012.
21. Sataloff RT, Gullane PJ, Goldstein DP. Sataloff's Comprehensive Textbook of Otolaryngology: Head & Neck Surgery. New Delhi: JP Medical Ltd.; 2015.