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Uptake and Utilisation of Hearing Aids: User Perspectives on Barriers and Challenges

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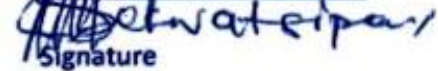
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ABBREVIATIONS

BTE	Behind-the-Ear
COM-B model	Capability, Opportunity, Motivation, and Behaviour model
dB HL	Decibel Hearing Level
HA	Hearing Aid
OTC	Over-the-Counter
UP	University of Pretoria
USA	United States of America
USD	United States Dollar
WHO	World Health Organisation

ABSTRACT

Objective

Hearing aids are critical in reducing the impact of hearing loss; however, their adoption and long-term use remain limited. To support improved uptake and sustained use, it is important to understand the challenges and barriers users face. This study explores adult hearing aid users' perspectives on the barriers and challenges influencing hearing aid uptake and utilisation.

Method

This qualitative study was part of a larger project conducted on adult hearing aid users in the United States of America. Participants were recruited from the Lexie Hearing and Hearing Tracker databases. Data which was collected using semi structured interviews was analysed retrospectively using inductive thematic analysis.

Results

A total number of 33 participants were included in the analysis however; demographic data was only available for 28 of these participants. Ages ranged from 30 to 84 years (mean 68.7, 10.7 SD), with the majority being male (68%; n=19), fitted with unilateral (93%; n=26) or bilateral (7%; n=2) hearing aids. Five main themes emerged: (1) Financial Accessibility and Prioritisation, (2) Psychological and Emotional Factors, (3) Social Perception and Stigma, (4) Gaps in Knowledge, Support, and Information, and (5) Hearing Aid Technology. Within these themes, 15 subthemes emerged. Participants identified affordability as a major barrier to hearing aid uptake and use. Even when clinically indicated, psychological and emotional factors often outweighed the need for hearing aids, contributing to low uptake and use. In addition, despite advances in hearing aid technology and proven benefits, participants reported inadequate informational counselling and limited clinician support as further barriers. These themes highlight the range of challenges faced, including financial constraints, emotional adjustment, stigma, insufficient professional guidance, and unmet expectations in daily life.

Conclusion

Hearing aid uptake and use are shaped by financial, psychological, technological, and informational barriers. Addressing these through tailored counselling, structured support, and public awareness is essential to improve uptake and long-term utilisation.

Keywords: hearing aid uptake, hearing aid utilisation, barriers, hearing loss

1. INTRODUCTION

Hearing loss is one of the most common chronic health conditions, affecting approximately one in five individuals worldwide and across all age groups (WHO, 2024; Lasak et al., 2014). Projections suggest that by 2050, more than 2.5 billion individuals will experience some degree of hearing loss (WHO, 2024). Hearing loss disrupts effective communication, making it difficult to understand speech in both quiet and noisy environments (Beechey et al., 2019). These challenges reduce workplace productivity and strain interpersonal relationships (Orjin et al., 2020; Franks & Timmer, 2023; Veiga et al., 2015; Mick et al., 2014; Arlinger, 2003). Beyond communication, untreated hearing loss is associated with broader risks, including cognitive decline and further deterioration in quality of life (Dawes et al., 2015). Globally, an estimated 83% of hearing loss remains untreated, resulting in over 750 billion United States Dollars (USD) lost annually (Orjin et al., 2020; WHO, 2021; McDaid, 2021).

In the United States of America (USA), hearing aids are the primary intervention for adults with hearing loss, offering significant improvements in communication, social participation, and overall quality of life (Tang et al., 2025). However, despite their proven benefits, hearing aids remain underutilised, with studies showing that only about one-third of USA adults aged 70 and older use them consistently, and utilisation declines further among the oldest age groups (Bainbridge & Ramachandran, 2014; Reed et al., 2023; Gallagher & Woodside, 2018). A variety of audiological and non-audiological factors continue to influence hearing aid uptake and consistent use (Knoetze et al., 2023).

Hearing aid uptake refers to the initial decision to acquire a hearing aid (Knudsen et al., 2010; Perez & Edmonds, 2012). Uptake is influenced by a combination of both audiological and non-audiological factors (Knoetze et al., 2023). Two audiological factors that positively correlate with hearing aid uptake are the age of diagnosis and the duration of hearing loss, as individuals who were diagnosed at a younger age are more susceptible to accepting hearing aids than individuals who were diagnosed at a later stage (Knoetze et al., 2023). A study by Bennett et al (2020) reported that individuals who had a positive attitude toward their hearing loss were more likely to adopt hearing aids than those with a negative attitude. Furthermore, individuals with hearing loss who have experienced communication difficulties for longer were more inclined to accept hearing aids (Knoetze et al., 2023). Socio-economic status has been identified as one of the leading non-audiological factors affecting hearing aid uptake, with low adoption reported due to the high costs associated with hearing aids (Knoetze et al., 2023).

Additionally, access to hearing healthcare services poses a challenge, as individuals can feel discouraged from traveling long distances to seek treatment (Knoetze et al., 2023).

Hearing aid usage reflects the extent to which the hearing aid is worn and integrated into daily life (Knudsen et al., 2010; Perez & Edmonds, 2012). Research indicates that of those who take up hearing aids, only 17% actually wear them (McDiad, 2021; Orjin et al., 2020). Several additional audiological and non-audiological factors may, however, influence hearing aid usage beyond initial uptake. A study by Ng & Loke (2015) reported that individuals with greater hearing loss severity tend to use their hearing aids more than those with milder hearing loss. Audiological factors such as higher speech perception abilities and bothersome tinnitus also contribute to increased usage (Mothemela et al., 2023). Non-audiological factors, including expectations, self-perceived benefit, and demographic characteristics (age, income, education), also negatively impact hearing aid use (Ng & Loke, 2015). Additionally, social support, including encouragement from family members and shared family time, has been shown to positively impact hearing aid use (Hickson et al., 2014; Nixon et al., 2021; Knoetze et al., 2023). These findings highlight the complex interplay between audiological and non-audiological factors influencing both hearing aid uptake and usage.

Stigma associated with hearing loss and hearing aids is a significant barrier to seeking treatment and continued use (David & Werner, 2016). This stigma can lead to social exclusion, isolation, and discrimination, undermining a person's identity and worth (Thorncroft et al., 2022). Individuals with hearing loss are often viewed as weak or abnormal (Lash & Helme, 2020) and may face negative reactions in personal and professional contexts, potentially impacting their careers (Rawool, 2018). Factors contributing to this stigma include ageism, concerns about appearance, fears of being perceived as cognitively incompetent (Ruusuvaori, 2019), and changes in self-perception, such as feeling weak or embarrassed (David & Werner, 2016). These factors may diminish motivation to use hearing aids and deter individuals from seeking and consistently using them.

Extensive research has explored both audiological and non-audiological barriers influencing low hearing aid uptake and utilisation; however, these studies have predominantly focused on the perspectives of hearing aid non-users and clinicians (Franks & Timmer, 2023; Ritter et al., 2020). As a result, there remains a significant gap in understanding the barriers and challenges experienced by hearing aid users themselves. To address this gap, the current study aims to explore adult hearing aid users' perspectives on the barriers and challenges affecting the uptake and utilisation of hearing aids.

2. METHOD

2.1 Study design

This study was part of a larger research project conducted by researchers at Lamar University in the USA, which aimed to investigate the hearing aid experiences of adult users. The larger study consisted of two phases. Phase one consisted of an online survey generated using the Qualtrics Platform and distributed to participants via email, while phase two consisted of semi-structured interviews done virtually by two research assistants at Lamar University.

Ethical approval for the survey study was obtained from Lamar University's Institutional Review Board (IRB-FY21-248) prior to data collection (Appendix I). In addition, this study received institutional review board clearance from the Faculty of Humanities Research Ethics Committee, University of Pretoria (REF: SLPA 2025/02) for the retrospective analysis (Appendix II).

2.2 Study Population and Sampling

243 participants were recruited from Lexie Hearing and Hearing Tracker databases using non-probability sampling to participate in phase one (online survey) (Desai et al., 2024; Avierinos et al., 2024; Knoetze et al., 2024). The website Hearing Tracker (<http://www.hearingtracker.com>) is an online platform where members of the public can share unsolicited reviews about hearing aids, express their personal opinions, and share their experiences with the hearing aids (Swanepoel et al., 2023). The Lexie Hearing database (<http://www.lexiehearing.com>) offers a convenient and flexible approach to purchasing self-fitting, behind-the-ear hearing aids (BTE HAs) online with an assisting application (Swanepoel et al., 2023).

Participants were required to meet the following eligibility criteria: 18 years of age or older and had been fitted with either unilateral or bilateral hearing aids (Desai et al., 2024; Avierinos et al., 2024; Knoetze et al., 2024). Upon completion of the survey, 107 of the 243 participants provided consent to be contacted for the second phase, which involved semi-structured interviews. Phase two of the study used convenience sampling, and out of the 107 participants who were contacted, only 42 agreed to partake in the interview.

2.3 Data Collection

As part of phase two of the larger study, semi-structured interviews were conducted virtually by two research assistants from Lamar University between October 2021 and February 2022. The interview guide (Appendix III) used in phase two included 31 open-ended questions. The interview guide was created by a team of researchers at Lamar University using the Capability, Opportunity, Motivation, and Behaviour model (COM-B). Utilising the COM-B Model provided a detailed insight into the behaviours affecting the low uptake and utilisation of hearing aids and allowed for a comprehensive analysis of the barriers contributing to this issue (Michie et al., 2014; Barker et al., 2016). This model served as a framework for creating interventions aimed at enhancing adherence to hearing aid use. Participants were contacted via email to schedule interviews, which were conducted and recorded using Microsoft Teams.

Responses to one particular question were included in the current study. This question was "Why do you think many people with hearing loss do not purchase and/or use their hearing aids?"

2.4 Data analysis

A total of 42 responses were initially transferred to Microsoft Excel for data analysis. Of these, 9 were excluded because the specific open-ended question was not answered (n=8) and one due to a duplicate transcript (n=1), resulting in 33 responses included in the final analysis. The interviews were automatically transcribed by Microsoft Teams and stored in Microsoft Word documents. All transcripts were de-identified, assigned unique numeric codes to ensure participant confidentiality, and securely stored in an online folder. The de-identified transcripts were then made available to the research team for this project and subsequently transferred to Microsoft Excel to facilitate inductive thematic data analysis.

Data was analysed retrospectively using the six phases of inductive thematic analysis, following a bottom-up approach in which themes were derived directly from the data without imposing pre-existing frameworks (Kiger and Varpio, 2020). The six phases include (1) Data familiarisation (2) Generation of initial codes (3) Searching for themes (4) Reviewing themes (5) Defining and naming themes (6) Producing the report. The researchers began by reading through the transcribed data multiple times to familiarise themselves with the content and develop a holistic understanding of the dataset. Following this, they conducted a detailed analysis of individual responses, identifying recurring patterns and grouping similar data patterns to generate initial codes. These codes were then organised into broader themes and subthemes. The process was highly iterative, involving continuous refinement of codes and themes as new insights emerged. As part of this qualitative inductive thematic analysis, the

researchers revisited and adjusted the coding framework throughout the analysis to ensure that it accurately reflected the data. This iterative approach facilitated a more nuanced and comprehensive interpretation, allowing for the identification of subtle yet meaningful patterns within the dataset.

To enhance the reliability of the study through cross-checking, the four researchers (AN; JS; OL; NR) divided into two pairs. Each pair (AN & OL), (JS & NR) independently analysed the first 50% of the transcribed interview responses and identified potential themes. The pairs then exchanged transcripts to review and evaluate each other's proposed themes. Any differences in interpretation were addressed through collaborative discussion, and final themes were established by consensus. This same process was repeated for the remaining 50% of the data, ensuring that 100% of the dataset was independently reviewed, cross-checked, and analysed collaboratively. Furthermore, two supervisors (MK; CF) cross-checked the themes and subthemes developed to ensure consistency and rigour throughout the analysis.

Potential disagreements were managed using an interest-based conflict resolution approach, emphasising underlying needs, open dialogue, and regular team meetings, with researchers agreeing on all decisions to foster consensus and transparent communication (Adham, 2023).

3. RESULTS

Participant Demographics

A total of 42 participants were interviewed, of whom 37 were recruited through Hearing Tracker and five from the Lexie Hearing databases. Of the 42 participants, 33 responses were analysed. A total of nine responses were excluded due to not answering the specific open-ended question (n=8) and one was a duplicate transcripts (n=1). Demographic data were only available for 28 out of the 33 included in the analysis. Of these 28, the majority were male (68%; n=19). Ages ranged from 30 to 84 years, with a mean of 68.7 years (SD = 10.7), reflecting a predominantly older adult population. Participants' demographic characteristics are summarised in Table 1.

Table 1: Descriptive Demographic Data of Study Participants (n = 28)

Demographic Characteristic	% (n)
Age in Years	
30-49	11 (3)
50-64	14 (4)
65-74	54 (15)
≥75	21 (6)
Sex	
Male	68 (19)
Female	32 (9)
Annual Income (\$)	
<25 000	7 (2)
50 000-99 999	46 (13)
100 000-149 999	18 (5)
≥150 000	29 (8)
Education level	
University degree	79 (22)
Some college but no university degree	21 (6)
Amplification status	
Unilateral hearing aid	93 (26)
Bilateral hearing aid	7 (2)

Factors Contributing to Low Uptake and Utilisation of Hearing Aids

A thematic analysis of participants' interview responses yielded 5 main themes and 15 corresponding subthemes, as outlined in Table 2. The main themes were: (1) Financial Accessibility and Prioritisation, (2) Psychological and Emotional Factors, (3) Social Perception and Stigma, (4) Gaps in Knowledge, Support, and Information, and (5) Hearing Aid Technology. Figure 1 below demonstrates the summarised themes and subthemes.

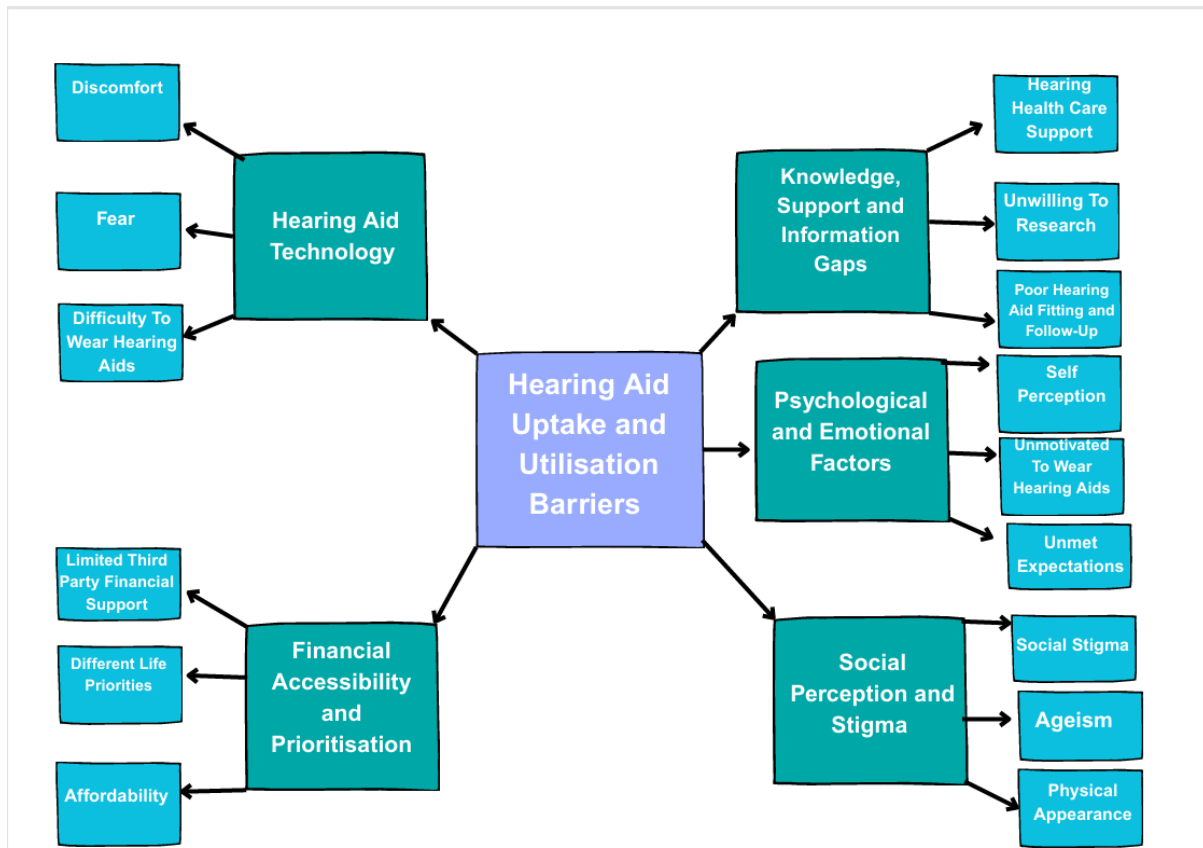


Figure 1: Summary of the Themes and Sub-Themes Related to Hearing Aid Uptake and Utilisation Barriers and Challenges (n=33)

Theme 1: Financial Accessibility and Prioritisation

Financial accessibility and prioritisation emerged as a theme negatively influencing hearing aid uptake and utilisation, including three subthemes. Many participants described the cost of hearing aids as a significant barrier to access and sustained use, with many finding them unaffordable, especially without adequate insurance coverage. As one participant noted, “A good pair is probably closer to \$4000 to \$6000, many people cannot afford that,” while another highlighted the limitations of third-party support, stating, “Hearing aids are not covered under their medical insurance, especially for older folks”. Even those who acknowledged the importance of hearing aids often found them prohibitively expensive. However, some

participants expressed hope that the availability of over-the-counter (OTC) hearing aids might reduce prices and increase accessibility, with one participant suggesting, "Different companies now getting involved in the OTC hearing aids... I think that's going to help people because I think it's going to drive the cost down." Nevertheless, financial decisions were also shaped by personal priorities, with some individuals choosing to allocate their resources elsewhere, as one participant observed, "I've had people tell me, I couldn't get hearing aids, I can't afford them, and they've got a brand-new car sitting out in front."

Theme 2: Psychological and Emotional Factors

Psychological and emotional barriers played a role in shaping individuals' experiences with hearing aid uptake and use, having two subthemes. Psychosocial barriers such as self-perception, denial, and personal perceptions of hearing loss severity emerged as factors negatively influencing hearing aid use. Participants spoke of appearance, often linking hearing aids with aging or vulnerability, with one participant reflecting, "That's where the look of the hearing aid might come into play." For many, acknowledging hearing loss was emotionally difficult, with some hesitant to admit needing help, saying, "I think that many people with hearing difficulties don't really believe they have hearing difficulties". Others described feeling embarrassed about using hearing aids in public. The severity of perceived hearing loss also played a role, with those with milder losses often dismissing the need for intervention, as one participant mentioned, "I can get by without hearing aids. I don't necessarily need them." The limited understanding of hearing aid benefits contributed to limited hearing aid usage and a lack of motivation to wear them.

Theme 3: Social Perception and Stigma

Stigma and social perception emerged as deterrents to hearing aid uptake and continued use. Participants frequently expressed how societal attitudes toward hearing loss negatively influenced their self-concept and behaviour. Many associated hearing aids with aging, vulnerability, or disability, resulting in feelings of embarrassment or diminished self-esteem. One participant remarked, "I think people still have that social stigma that it makes you look old as you're wearing a hearing aid", while another noted, "it makes you look old as you're wearing a hearing aid", illustrating how ageist assumptions and stereotypes influence public responses. These perceptions often led individuals to delay seeking help or avoid follow-up appointments, even when further support was needed. Vanity and concerns about physical appearance also played a role, with some individuals reluctant to wear visible hearing aids due to fear of judgment or social labelling. As one participant expressed, "I don't wanna be old. I don't wanna be, you know, different or weird," highlighting that the visibility of hearing aids was not just a cosmetic concern but a symbol of unwanted identity for many.

Theme 4: Knowledge, Support, and Information Gaps

Knowledge, support, and information gaps negatively impacted individuals' experiences with hearing aid uptake and use. A clear barrier to hearing aid uptake was the lack of sufficient information and support, both before and after hearing aid fitting. Some participants felt they were inadequately prepared for what to expect, with one noting, "They have not gotten the information about what to expect from the beginning." Others described poor post-hearing aid fitting care and fitting procedures, saying, "They don't go back for fittings to make sure that they get adjusted properly, and they get frustrated by that". These experiences, coupled with frustration from not returning for follow-up adjustments, suggest that inadequate service delivery can impact hearing aid success. Furthermore, a deeper unwillingness to research or learn about the hearing aids further compounded the issue, with some noting a lack of ability to do the research, saying, "There's a lack of ability to do the research, to talk to people, to find out the good and bad points," while another added, "They're not willing to put the energy in to understand what they have."

Theme 5: Hearing Aid Technology

Hearing aid technology encompasses multiple factors, often resulting in a gap between anticipated outcomes and actual benefit. Participants shared preconceived notions that hearing aids were difficult to use or maintain, expressing doubts about handling, adjusting, or cleaning them, with one participant saying, "Will I be able to adjust it, to clean it? That is a concern". Perceived benefit played a role, with some users stating, "And I think for a lot of people they put them in and they think everything is going to be fine and it's not," reducing motivation for consistent use. The adjustment period was particularly challenging, requiring users to adapt to new sounds and sensations. One participant noted, "When you get hearing aids, it takes about a month or two... your brain has to learn it," emphasising the importance of neural adaptation and ongoing support. Physical discomfort also impacted satisfaction, with some reporting it was "uncomfortable to have stuff in their ears," discouraging regular use. Emotional and cognitive barriers, such as fear of change and anxiety about technology, further influenced experiences. Comments like "fear of something new or different" and concerns over "little technical things" reflected this hesitancy. As a result, many adopted selective usage habits, wearing hearing aids only in social situations.

Table 2: Overview of Themes and Subthemes Identified from Hearing Aid Users' Perspectives on Hearing Aid Uptake and Utilisation Barriers and Challenges (n=33)

Theme	Subtheme	Quote (Sex, age in years, amplification status)
Financial accessibility and prioritisation	Affordability	<i>"I think a lot of them cannot afford them"</i> (M,73, Unilateral)
	Limited third-party financial support	<i>"I think it's because it's not covered by insurance. If they do cover it, you have to meet your deductible."</i> (M,46, Unilateral)
	Different expense priorities	<i>"It's just not one of their priorities. I've had people telling me, oh, Steve, I couldn't get, hearing aids I can't afford them and they've got a brand-new car sitting out in front."</i> (no demographic data)
Psychological and emotional factors	Self-perception	<i>"They don't want to admit they have a problem."</i> (F, 83, Bilateral) <i>"They were embarrassed"</i> (F, 83, Bilateral)
	Unmotivated to wear hearing aids	<i>"They just are unwilling to wear them, the whole time they're awake, I think people think I'm only gonna wear them when I'm around people"</i> (M,71, Unilateral)
	Unmet expectations	<i>"It doesn't improve the hearing the way they had anticipated. The hearing would be improved"</i> (M, 73, Unilateral)
Social perception and stigma	Social stigma	<i>"And when you wear hearing aids and people noticed them, they treat you differently."</i> (M,68, Unilateral)
	Ageism	<i>"Uh, they think it's going to make them appear to be an old person? They associate hearing loss with age or with aging."</i> (no demographic data)
	Physical appearance	<i>"But I think that's where the look of the hearing aid might come into play"</i> (M,73, Unilateral)

Knowledge, support and information gaps	Hearing health care support	<i>"They have not gotten the information about what to expect from the beginning." (M,74, Unilateral)</i>
	Poor hearing aid fitting and follow-up	<i>"It may not have been fitted properly and so they get a lot of crackly sounds or whatever" (F,69, Unilateral)</i>
	Unwilling to research	<i>"Lack of ability to do the research, to talk to people, to find out the good points, the bad points of hearing aids in general." (no demographic data)</i>
Hearing aid technology	Discomfort	<i>"Some people find it, uncomfortable, to have stuff in their ears" (F,71, Unilateral)</i>
	Difficulty using device	<i>"I think that's huge and I think people, the third thing might be that people just think it's difficult, you know, it might be difficult for people understand how to use them." (F,60, Unilateral) "Will, I actually be able to use it. Will I be able to adjust it to clean up things like this?" So that is a concern of some people that may stop them from getting here hearing aids." (no demographic data)</i>
	Fear	<i>"Fear of the technology that comes with hearing aids, and also I think there may be some people are put off by the little technical things that you don't really have to know a lot" (F, 68, Unilateral)</i>

M= Male; F= Female

4. DISCUSSION

This study explored the perspectives of adult hearing aid users to better understand the multifaceted barriers and challenges contributing to the low uptake and utilisation of hearing aids. A qualitative analysis of responses from 33 adult hearing aid users uncovered a range of personal, financial, emotional, social, technological, and informational barriers to hearing aid uptake and use. These findings were organised into five main themes: Financial Accessibility and Prioritisation, Psychological and Emotional Factors, Social Perception and Stigma, Knowledge, Support, and Hearing Aid Technology. Within these themes, 15 subthemes were identified.

A predominant concern raised by participants was the cost of hearing aids, which continues to be a significant perceived barrier. Consistent with prior studies, this challenge is observed globally. For example, McCormack and Fortnum (2013) reported that hearing aid costs and limited public funding in the United Kingdom (UK) significantly restricted uptake, even within a national health service model. Chundu et al. (2020), in a cross-cultural study spanning India, the UK, USA, and Portugal, reported that hearing aid cost frequently competed with other essential household expenses, particularly in low- and middle-income contexts. Similarly, Olusanya et al. (2022) noted that without insurance coverage or government assistance, hearing aids remained inaccessible to large segments of the population in Nigeria. In line with these findings, participants in the present study described not only the direct cost as prohibitive but also the need to allocate resources to other life priorities, reflecting that financial decision-making around hearing aids is both economic and psychological in nature. Even when the cost was manageable, the perceived value of the hearing aids relative to competing needs influenced uptake decisions.

The absence of structured payment options or supportive insurance systems was also raised as a barrier, highlighting broader systemic gaps in service delivery. A recent systematic review by Knoetze et al. (2023) similarly revealed that access to financial support, such as third-party funding, can significantly enhance hearing aid uptake. The availability of affordable hearing aid options or financial assistance could therefore improve uptake rates, particularly in resource-constrained settings. Notably, some participants in this study expressed optimism regarding the increasing availability of OTC hearing aids, which may enhance accessibility to amplification. OTC hearing aids offer a more cost-effective alternative to traditional prescription hearing aids by reducing the need for professional consultations and fitting services, lowering the initial purchase price, and minimising ongoing service-related expenses (De Sousa et al., 2023). This potentially facilitates uptake among individuals with hearing loss

(Manchaiah et al., 2023; Borre et al., 2023). While OTC hearing aids may help expand access, their long-term impact, clinical suitability, and effectiveness across diverse user populations remain subjects of ongoing research (Manchaiah et al., 2023). Collectively, these findings emphasise that financial concerns extend beyond the price of the hearing aid and point to the need for inclusive funding models and equitable service access that reflect hearing aid users' lived financial realities.

Beyond economic considerations, psychological and emotional barriers emerged as influences on hearing aid uptake. Emotional readiness and psychological acceptance frequently exerted a stronger influence than clinical indicators of hearing loss, such as audiometric severity or progression of the hearing loss. Similarly, Kricos et al. (2007), in a study conducted in the USA with adults, found that emotional readiness and self-efficacy were stronger predictors of hearing aid uptake and adjustment than audiometric measures, highlighting the importance of integrating mental and emotional well-being into hearing healthcare. Participants in this current study reported concerns about the physical appearance of hearing aids, and were apprehensive about social stigma, which affected their willingness to commit to consistent use. Some also expressed uncertainty about whether the hearing aid would substantially improve their communication, reflecting unmet expectations and fear of disappointment. For many, hearing loss negatively affected their identity, self-perception, and social image, leading to feelings of embarrassment, reduced confidence, and concern about being perceived as old or disabled. These findings align with previous research demonstrating that denial, fear of stigma, and associations between hearing aid use and aging can delay help-seeking (Frisby et al., 2025; Southall et al., 2010; Meyer and Hickson, 2012). For instance, Southall et al. (2010) found that perceived social stigma and negative attitudes toward aging discouraged older adults in the USA from adopting hearing aids, while Meyer and Hickson (2012) highlighted that denial and fear of social judgment led Australian adults to postpone seeking help.

Denial about the severity of hearing loss was a recurring subtheme in the present study. Some individuals believed they could cope without amplification, which led to delays in care. This aligns with findings by Ferguson et al. (2017), who noted that adults with mild-to-moderate hearing loss in the USA and Europe often underestimate its impact and defer intervention. The emotional difficulty of acknowledging hearing loss, particularly when framed as a marker of aging or vulnerability, emerged as a barrier. These results suggest the need for audiologists to adopt holistic, identity-sensitive approaches that support emotional adjustment alongside hearing aid provision (Grenness et al., 2014; Timmer et al., 2023).

Social stigma and societal perceptions further shaped hearing aid uptake. Many participants described how ageist attitudes and fear of being seen as old or disabled influenced their willingness to wear hearing aids publicly. For instance, a scoping review by Frisby et al. (2025) highlighted that in some low to middle-income countries, hearing loss is linked to witchcraft or curses, further deterring individuals from seeking help and adopting hearing aids. Similarly, Southall et al. (2010), who conducted qualitative interviews in Canada with adults using hearing aids, found that stigma, denial, and self-stigmatisation, often tied to concerns about aging and disability, contributed to delayed help-seeking. In an Australian context, Ekberg et al. (2025) reported that concerns about being perceived as old or impaired were central to reluctance in adopting hearing aids. Despite advances in hearing aid design, concerns about visibility remained important, with hearing aid users expressing discomfort about drawing attention to their hearing loss. This fear of social labelling has been observed in other studies, where the appearance of hearing aids undermines individuals' desire to maintain a 'normal' identity (Meyer et al., 2025; David & Werner, 2016). Internalised stigma was also evident, as participants often accepted negative beliefs about hearing loss, which affected their willingness to seek help and engage in follow-up care. Nickbakht et al. (2024) conducted a qualitative study in Australia involving adults with hearing loss, their families, and hearing care professionals. The study found that hearing loss and hearing aids were often associated with stereotypes of aging, disability, and being "different," contributing to stigma that can delay hearing aid adoption. Addressing stigma as a barrier requires more than individual counselling. Broader societal change through public education, positive role modelling, and peer support is essential to normalise hearing aid use (Madara & Bhowmik, 2024). Audiologists can support this by exploring patients' beliefs and attitudes during consultations and helping to reframe hearing aids as tools for empowerment rather than markers of decline (Southall et al., 2010; David & Werner, 2016).

Participants also reported being inadequately prepared for the realities of hearing aid use, pointing to substantial gaps in knowledge, support, and communication throughout their hearing healthcare journey. These gaps reflect broader structural issues in service delivery. A lack of pre-fitting education and limited follow-up care left hearing aid users feeling unsupported and unsure of how to manage their hearing aids, contributing to frustration and discontinuation. These findings align with a review by Manchaiah et al. (2018), which identified unmet expectations, including difficulties adjusting to hearing aid use, unrealistic assumptions about hearing aid performance, and insufficient professional support as key reasons for hearing aid abandonment.

Many hearing aid users expressed uncertainty about handling and maintaining their hearing aids, and some lacked confidence in seeking out or understanding relevant information. This reinforces the importance of providing user-friendly education, anticipatory guidance, and consistent follow-up. Embedding structured support, including hands-on training and peer-based interventions, can help bridge informational and emotional gaps (Bennett et al., 2020). Person-centred approaches that reflect hearing aid users' individual needs and lived experiences, such as tailored hearing aid selection, personalised training on hearing aid use, ongoing follow-up support, and involving hearing aid users in goal setting, are critical to improving satisfaction and sustained use (Mahomed-Asmail et al., 2023).

Another key finding was the mismatch between hearing aid users' initial expectations and their actual experiences with hearing aids. Many individuals anticipated immediate improvement in hearing and were discouraged when the benefits required time and adjustment. Unrealistic expectations are well-documented as a barrier to sustained hearing aid use. Bennett et al. (2021) analysed 1,378 publicly available hearing aid reviews on the Hearing Tracker website, and most first-time users expected near-complete restoration of hearing, yet 98% reported at least one hearing aid-related problem, with over half unresolved, often due to lack of communication with hearing healthcare professionals. This mismatch between expectations and lived experiences contributed to dissatisfaction and reduced persistence (Bennett et al., 2021). Similarly, Orjin et al. (2020) reported that users who expected immediate and effortless benefit were more likely to discontinue use within the first year, particularly when the adjustment period required significant effort in adapting to amplified sound. This underscores the need for clear, early counselling on what hearing aid users should realistically expect in terms of benefit and adaptation timelines (Ng & Loke, 2015). The present study suggests that hearing aid fitting appointments should incorporate structured counselling on expected outcomes, hands-on training in hearing aid handling and maintenance, and anticipatory guidance to reduce uncertainty and frustration. In addition, scheduled follow-up sessions and opportunities for peer or family involvement can help bridge both informational and emotional gaps (Reynolds et al., 2019). By embedding these supports within a person-centred framework, professionals can foster greater user confidence, satisfaction, and long-term adherence to hearing aid use (Mahomed-Asmail et al., 2023).

Discomfort, anxiety about managing technology, and limited perceived benefit are significant barriers to consistent hearing aid use, particularly among new users. A recent systematic review revealed that discomfort with the hearing aid and a lack of perceived benefits were among the most common reasons for hearing aid rejection (Marcos-Alonso et al., 2023). Anxiety about managing hearing aid technology also contributes to non-use, emphasising the

need for user-friendly designs and comprehensive training (Ismail et al., 2022). When improvements are not immediately apparent, motivation to use hearing aids often declines, leading to selective or situational use (Ferguson et al., 2016). Fourie et al. (2024) found that users who did not experience immediate benefits were less likely to use their hearing aids consistently, underscoring the importance of managing user expectations. These findings suggest that hearing aid success depends less on hours of use and more on whether hearing aids support users' communication goals in meaningful contexts.

Together, these findings underscore the need for hearing healthcare systems to evolve from a hearing aid-focused model to a user-centred framework. Financial, emotional, social, technological, and informational barriers must all be addressed to improve hearing aid uptake and use. Holistic care, sustained support, and inclusive service design are essential steps toward making hearing healthcare more responsive, effective, and equitable.

This study presented some limitations; the sample size was relatively small, which may limit the transferability of the results to broader populations. The participants were all based in the USA, which further narrows the contextual scope of the findings and may not fully capture the experiences of hearing aid users in other cultural or healthcare settings. In addition, recall bias may have influenced participants' responses, as their reflections on hearing aid experiences were based on memory rather than real-time reporting. Future research should prioritise larger and more demographically diverse samples, as well as longitudinal designs, to capture the evolving nature of hearing aid attitudes, behaviours, and usage patterns, thereby enhancing the generalisability of findings and informing more effective, user-centred audiological interventions.

5. CONCLUSION

This study demonstrated that hearing aid uptake and use can be influenced by a combination of financial, psychological, social, technological, and informational barriers and challenges, rather than clinical need alone. Affordability emerged as a key barrier, while personal perceptions, emotional readiness, and limited knowledge further shaped individuals' decisions. Although stigma was not the most prominent barrier, it remained relevant, reflecting persistent societal attitudes toward hearing aids. These findings highlight the need for holistic hearing healthcare that addresses financial accessibility, patient education, psychosocial support, and expectation management to facilitate earlier adoption and maximise benefits.

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7. APPENDICES

7.1 Appendix I: Memorandum of Understanding between the University of Pretoria and Lamar University



Memorandum of Understanding

This Memorandum of Understanding (“MOU”) is made and entered into on August 01, 2021 (the “Effective Date”), between Lamar University, an institution of higher education in the State of Texas and a component of The Texas State University System, (“University”), which is located at 4400 MLK Parkway, Beaumont, Texas 77710, United States of America (USA) and University of Pretoria, Faculty of Humanities, an institution of higher education in the Gauteng Province, which is located at corner Roper Street and Lynwood Road, Hatfield, 0028, Pretoria, Republic of South Africa (SA) (“Partner”), University and Partner shall be known collectively as “the Parties” and singularly as “a Party” or “the Party.”

Recitals

Whereas, cordial relations exist between Lamar University and University of Pretoria, Faculty of Humanities,

Whereas, Lamar University and University of Pretoria, Faculty of Humanities have discussed mutual goals regarding academic opportunities for students and faculty; and

Whereas, Lamar University and University of Pretoria, Faculty of Humanities desire to establish a program to be formalized at a later date (the “Program”) for the benefit of students and faculty of their respective educational institutions;

Now, therefore, the Parties enter into this MOU, in order to memorialize fundamental concepts regarding the Program, which includes supporting collaborative research projects, international experience for faculty/staff and students and academic teaching.

Understanding of the Parties

In contemplation of the establishment of the Program, the Parties agree as follows:

Article 1 (Objectives)

- A. To contribute further to the original understanding between both countries (the United States of America and the Republic of South Africa), both cities (Beaumont and Pretoria), and both institutions (Lamar University and University of Pretoria), through mutual cooperation programs.
- B. To further collaborations between Lamar University and University of Pretoria through academic programs in instruction, research and faculty/staff development among the faculty/staff and students of both institutions.
- C. To enhance the international experience of faculty/staff and students in the area of:
 1. Research
 2. Joint Programs and Collaboration
 3. Exchange of Faculty/Staff and Students

Article 2 (Responsibilities of Parties)

- A. Both institutions commit themselves to identify concrete areas of academic collaboration and to explore the means to achieve a successful collaboration.
- B. The officials who will have the responsibility in coordinating the Program for the Parties are: Dr. Vinaya Manchaiah, Department of Speech and Hearing Sciences, Lamar University, USA; and Prof De Wet Swanepoel, Department of Speech-Language Pathology and Audiology, Faculty of Humanities, University of Pretoria, SA.

Article 3 (Understanding of Parties)

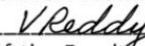
- A. The Parties understand and acknowledge that they are making a significant commitment to this collaborative effort. Accordingly, the Parties agree to expend their best efforts on the design, implementation, and successful continuation of the Program.
- B. This MOU shall remain effective from the effective date listed above until the end of the term of three (3) years.
- C. The Parties understand and acknowledge that this MOU will provide the foundation for a more comprehensive agreement concerning the details of the Program; and that this MOU does not commit the Parties regarding the Program. This MOU is gratuitous for the parties and no payment or remuneration may be required by virtue of its execution as the Parties will absorb inherent costs to comply with this MOU at this time.
- D. The Parties understand that this Program must support through its activities the mission of Lamar University and the University of Pretoria, Faculty of Humanities; that the Programs may not use the name and official seal of the other Party or any of its components without the written consent of the senior management of the other Party or her/his designee; that the Program is subject to all policies and procedures of the Board of Regents and Administration of the Texas State University System and those of the University of Pretoria, and must submit to reporting and auditing requirements as established by both Parties,.
- E. Any intellectual property matters that arise from the Program shall be addressed pursuant to applicable policy, law and mutual written agreements among the Parties.
- F. This MOU contains the entire understanding of Parties at this time. If either Party is unwilling or unable to continue with plans for the Program, that Party may do so by sending thirty (30) days written notice to the other Party.
- G. This MOU may not be amended or otherwise modified except by the written agreement of both Parties. Neither Party may assign this MOU without the other Party's prior written consent. The invalidity or unenforceability of any provision(s) of this MOU will not impair the validity and enforceability of the remaining provisions.
- H. In their execution of this agreement, all contractors, subcontractors, their respective employees, and other acting by or through them shall comply with all federal and state policies and laws that prohibit discrimination, harassment, and sexual misconduct. Any breach of this covenant may result in termination of this agreement.

In witness whereof, the Parties have caused their fully authorized representatives to execute this MOU effective as of the date written above.

Printed Name: Prof. William Harn
 Signature: 
 Title: Chair, Speech and Hearing Sciences

Printed Name: Prof. De Wet Swanepoel
 Signature: 
 Title: Professor, Dept of Speech-Language Pathology and Audiology

Printed Name: Prof. Terina Holtzhausen
 Signature: 
 Title: Dean, Fine Arts and Communication

Printed Name: Prof. Vasu Reddy
 Signature: 
 Title: Dean of the Faculty of Humanities, University of Pretoria

Printed Name: Prof. Jerry Lin
 Signature: 
 Title: Associate Provost for Research and Sponsored Program, Lamar University

Note: Modification of this form requires approval of OGC

Standard Form Approved by the Lamar University Office of General Counsel

7.2 Appendix II: University of Pretoria's ethical clearance



Faculty of Humanities

Fakulteit Geesteswetenskappe
Lefapha la Bomotheo



Department of Speech Language Pathology and Audiology

20 Feb 2025

Dear Researchers,

Project: Exploring Hearing Aid User Perspectives on Hearing Aid Uptake and Utilisation

Researchers: Akhona Olwethu Nyathi (u22770063), Omphemetse Delvy Lekwatsipa (u22638572),

Netia Tshephang Ramonyai (u22783157), Joy Buhlebesizwe Skosana (u22500112)

Supervisors: Dr Megan Knoetze, Dr Caitlin Frisby, Prof Faheema Mahomed-Asmail and Prof De Wet Swanepoel

Department: Department of Speech-Language Pathology and Audiology

Reference Number: SLPA 2025/02

Thank you for the application submitted to the Research Committee of the Department of Speech- Language Pathology and Audiology, Faculty of Humanities. Your application has been approved.

The approval is subject to the candidates abiding by the principles and parameters set out in the application

We wish you success with the project.

Sincerely



Prof Lidia Pottas Chair: Departmental Research Committee



Prof J van der Linde: HEAD DEPARTMENT OF SPEECH-LANGUAGE PATHOLOGY AND
AUDIOLOGY UNIVERSITY OF PRETORIA

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7.3 Appendix III: Semi -structured interview guide

Semi-structured Interview Guide

INITIAL QUESTION

Could you start by telling me how you first obtained your hearing aids.

PRECONCEPTIONS/ MOTIVATION

- **How did you feel when you first started to realize that your hearing may have deteriorated? (C)**
- **What motivated or encouraged you to seek help for your hearing? (M)** What discouraged you to seek help for your hearing? Who did you first consult about your hearing problems?
- **What did you think about hearing aids before you got them? (C)** How did you think they would change your life or your ability to hear?

DECISION PROCESS

- **What motivated or encouraged you to purchase hearing aids? (M)** Was there anything that discouraged you?
- **What was the process of getting hearing aids like for you? (C)** Was it easy to find help? Did you know which professionals or practices to contact? Did you have enough information to make decisions? Did you feel pressurized to make decisions before you

were ready? What were the main difficulties in this decision process? What helped you make this decision?

- **Did you discuss this process with anyone? If so, who? If not, why was this? (O)** Any family members or friends, people you know with hearing aids? Did you contact more than one professional (e.g., Primary Care Physician, ENT, audiologists)? Were these discussions helpful?
- **What factors influenced your overall choice of hearing aid/s selected? (C, O, M)** Was the decision based on price, the style, whether it had special features (e.g., streaming with phone or TV, rechargeable batteries, remote microphones, etc)?
- **Did you try Direct-to-Consumer (DTC) or Over-the-Counter (OTC) hearing devices (e.g., Personal Sound Amplification Products (or PSAPs), hearables) before or after getting hearing aids? (O)** How much did this help? Did this experience encourage the use of hearing aids?

DURING HEARING AID FITTING

- **How was your experience making an appointment to see an audiologist? What kind of support did you receive from those who help book your appointment?**
- **What do you recall about the day you were fitted with hearing aids? What kind of procedures were performed? What type of information was provided?**
- **What was your immediate reaction to hearing aids on the day or first few days of wearing the device (O)?**

ACCLIMATIZATION

- **Can you describe your experience of using hearing aids during the first few weeks? (O)** How did you find this period? Was there anything that made it hard to use to the hearing aids? Did you expect it to be difficult/easy? Were they complicated to use or get in your ears?
- **How often and when do you use the hearing aids at present? (O, M)** Do you wear hearing aids in certain situations or certain times of the day? Has this changed over time and why? In these situations where you wear your hearing aids, how did your hearing aids help you? How did it make you feel?

SUPPORT (C, O, M)

- **Is there anything about your hearing aid journey that would have made it easier for you to acquire as well as get optimal benefits from these devices? Did you feel prepared, supported, and have enough information before purchase? Did your hearing health professional (audiologist) provide enough support helping you to learn out to use the hearing aids and handle them? What did you think about your overall care? How supportive were your family and did they make the journey easier or harder?**

- **What additional resources, if any, were provided by your audiologist** (e.g., communication tactics, information leaflets, online rehab program)? Did they direct you to any other professionals or organizations or groups for additional support?
- **Have you needed many changes to the original settings of the hearing aids?** Why? Was it easy to get this done? Did you feel the changes made helped you? Did the audiologist help you?
- **How important was your audiologist in your hearing aid journey?** Do you think you could have managed fitting and getting used to hearing aids that were bought directly from the internet or pharmacy?

OUTCOMES

- **We spoke about your views before you got the hearing aids. Did this view change after you got the hearing aids and used them for some time? (C)** Were your initial expectations met, exceeded, or were you disappointed? Please explain your experiences.
- **Have hearing aids changed your life in any meaningful way? (O)** Why or why not? How do you think and feel about your hearing aids? We would really like to know your experience with your hearing aids.
- **What do you think about the cost of hearing aids? (M)**
- **Do you feel the money spent on your hearing aids was worth it considering the benefits? (M)**
- **Are you comfortable telling people you wear hearing aids? (O)** Do you mind other knowing that you have hearing aids?
- **Do you think wearing hearing aids help the people around you (e.g., your family living with you / your colleagues at work in communication)? (O)** Please provide reasons for your answer.
- **We want to know if having hearing aids has opened new possibilities for you that were difficult before (O, M).** For example, do you find that you are **more or less social** since getting a hearing aid? Do you find that you participate/engage in **more or less physical activity** (exercise or recreational) since getting a hearing aid?
- **Has getting a hearing aid changed how you feel about yourself? (M)** Are there any unexpected benefits from using the hearing aids that you have noticed (e.g., less effort during communication, more confident, more efficient at work, less tired at the end of the day)?
- **If you had a friend that was struggling to hear, what would your advice to them be and why? (C, M)**

BARRIERS (O)

- **Are there any unexpected negative side effects of using hearing aids?**
- **Are there any situations that have caused you to avoid wearing your hearing aids?**

Which situations and Why?

- **Why do you think many people with hearing loss do not purchase and/or use their hearing aids? (M)**

FUTURE (C, O, M)

8. **Would you consider getting self-fitting or over-the-counter (OTC) hearing devices in future?** Why do you want to purchase these devices (or not)?

9. **Is there anything you would change about your hearing aids if you could?** In other

words, tell us how you would think hearing aids should be to be more useful for you and the people around you. What features and functionalities does future generation hearing aids should include?