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Getting used to hearing aids: The geriatric users' perspective in Gauteng, South Africa

Loonat, Tayyiba

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Getting used to hearing aids: The geriatric users' perspective in Gauteng, South Africa

A dissertation report presented to
The Department of Speech Pathology and Audiology
School of Human and Community Development
Faculty of Humanities
University of the Witwatersrand in fulfilment of the requirements
for the degree MA in Audiology

by

TAYYIBA LOONAT

1900832

Under the supervision of Prof. Dhanashree Pillay

March 2025

Declaration

I, Tayyiba Loonat, hereby declare that this dissertation project and report are my own work and that all due credit has been given to authors whose work was consulted. This work is being submitted in partial fulfilment of the degree: Master of Arts in Audiology by Research at the University of the Witwatersrand. It has not been previously submitted at this University or any other institution.

Signed*: T. Loonat*

Date: January 2025

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"Allah is Sufficient for us, and He is the best Disposer of affairs." – Surah Al 'Imran (3:173)
All praise to Allah (God) for giving me the ability and strength to pursue this dissertation.

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Abstract

One of the most prominent demographic phenomena of the 21st century is a growing aging population. Presbycusis is the most common form of sensorineural hearing loss that impacts the aging population, leading to negative biopsychosocial consequences. The primary clinical management and intervention for people with presbycusis is the use of amplification devices such as hearing aids. However, despite the negative consequences of hearing loss, hearing aid usage is low amongst users. Research indicates both positive and negative reasons why people who have been fitted with hearing aids do not wear them. However, there is a lack of context-specific evidence detailing what impacts getting used to consistently wearing hearing aids in South Africa, particularly in the geriatric population. The current study explored the perspective of elderly hearing aid users in Gauteng, South Africa, to determine the factors influencing their use of hearing aids and the impact of follow-up hearing aid sessions. A qualitative narrative design was used via focus groups sessions to obtain data. Non-probability, purposive sampling was used to recruit participants from three preselected retirement homes/care homes in Johannesburg, Gauteng. Each focus groups discussion was transcribed, and thematic content analysis was conducted. The dissertation has critically identified factors which influence getting used to consistently wearing hearing aids in the geriatric population, the effectiveness of follow-up sessions post hearing aid fitting and the significant role of the audiologist. Successfully adapting to the hearing aid through consistent usage is dependent on how often the hearing aid user wears it, as well as their ability to handle the hearing aid in terms of manipulation and maintenance. Through the findings related to how to easily guide hearing aid use and manipulation, audiologists can explore alternative and effective means to deliver rehabilitation to maximise hearing aid benefit and support users in the process of getting used to consistently wearing hearing aids. Lastly, the quality of life of the geriatric population can be improved through consistent hearing aid use.

Keywords: **Hearing aids, presbycusis, geriatric population, hearing loss, audiologist**

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LIST OF ABBREVIATIONS

WHO: World Health Organization

EAS: Electric Acoustic Stimulation

CI: Cochlear Implant

PCC: Person-Centered Care (PCC)

ICF: The International Classification of Functioning, Disability and Health Framework

BTE: Behind-the-ear

RIC: Receiver-in-the-canal

Chapter 1: Introduction

Introduction

One of the most prominent demographic phenomena of the 21st century is the aging of the population (Polat & Eyupler, 2022). Demographic projections highlight that populations globally are ageing, which will have an impact on many national social, economic and health systems (Chatterji et al., 2015). Population ageing is taking place at a rapid rate in low-middle-income countries (Daviaud et al., 2019). Therefore, the population aged 65 years and older seem to have higher mortality rates in less developed regions due to increasing income inequality, disparities in access to health care, and a lack of social support systems. These factors lead to widened health gaps between high-, low- and middle-income countries (Chatterji et al., 2015). The WHO World Report on Ageing and Health describes the long-term impact of ageing projecting that the number of older adults in South Africa will increase to 15.4% of the population by 2050 (WHO, 2018). The projection of increase of older adults in South Africa implores the need for improvement to health care and quality of health for the elderly population. Hence, the current study focused on identifying the provision of comprehensive support and rehabilitation efforts to the geriatric population to improve hearing aid use.

The population comprising 65 years and older is referred to in general as the elderly or the geriatric community (Dotchin et al., 2013). However, statistical evidence tends to include people older than 60 years as the geriatric population. In Africa, the population 60 years and older is referred to as geriatric (Naidoo & Van Wyk, 2019). This growth within the older population presumes an associated increase in geriatric and degenerative issues (Patel & McKinnon, 2018). Aging is accompanied by an increased likelihood of acquiring one or more chronic diseases, such as respiratory disease, arthritis, stroke, depression, and dementia (Leslie & Hankey, 2015). Furthermore, the geriatric population experience sensory deprivation which progresses over time leading to dementia and manual dexterity. The older population may experience the inability to perform certain physical and mental tasks, including lifting, walking, balancing, reading, writing, and manual dexterity (Daviaud et al., 2019). Manual dexterity is complex and is defined as the ability to control finger movements correctly and rapidly in a coordinated manner such as fine control in grasping and manipulating small objects (Carment et al., 2018). Therefore, with aging, manual dexterity

deteriorates and can negatively impact activities of daily living and independence (Carment et al., 2018). Manual dexterity difficulties may lead to difficulties with manipulation of walking sticks, assistive devices such as hearing aids and spectacles. Furthermore, cognitive deterioration may not always be accompanied by an impairment or linked to a recognized disease process but is highly common in the elderly (Daviaud et al., 2019). Common sensory deteriorations seen in the aging population include alterations in vision, balance, and hearing, leading to dramatic social and functional disabilities (Patel & McKinnon, 2018). Hearing impairment is of growing concern as it is the most wide-spread sensory disorder in the elderly globally (Govender & De Jongh, 2021).

Presbycusis is the most common form of age-related sensorineural hearing loss (Govender & De Jongh, 2021). The most prominent symptoms of presbycusis are difficulty with speech discrimination and perception. The hearing and communicating challenges lead to frustration in both the affected individual, as well as others in their environment. Research indicates that hearing loss is linked with poor quality life in older people and may lead to poor general health and mood disorders, resulting in depression and anxiety (Govender & De Jongh, 2021). Furthermore, quality of life is multidimensional, and includes physical well-being, social well-being, and emotional well-being (Govender & De Jongh, 2021).

As presbycusis is not a curable condition, the aim is to improve on the quality of life of individuals with presbycusis and to try to assist in minimising their communication challenges. Hearing aids are the primary clinical management intervention for people with hearing loss, particularly in the rehabilitation of patients with sensorineural hearing loss (Polat & Eyupler, 2022). Therefore, the geriatric population with hearing aids may experience increased difficulty in hearing aid use due to sensory deprivation of dementia and manual dexterity as hearing aids require memory and manipulation. Additional forms of intervention for people with hearing loss include auditory rehabilitation, counselling, education, and assistive listening devices (McCormack & Fortnum, 2013). Despite the negative consequences related to hearing loss and the benefits of improved hearing ability and communication, research has found that individuals who have hearing loss, either underuse or abandon their hearing aids (Orji et al., 2020). Researchers have aimed to identify reasons for underuse or disuse of hearing aids. Perez and Edmonds (2012) conducted a systematic review of studies measuring and reporting hearing aid usage in older adults

globally. They found that there was no consistent way to assess usage of hearing aids in patients. The study identified 15 different unstandardised methods for assessing the usage of hearing aids, and the findings indicated the lack of evaluations pertaining to the usage of hearing aids. The impact of this finding highlights the need for studies to examine the factors influencing usage of hearing aids to allow for future management to evaluate if there is a need for a tool for evaluating hearing aid use. A standardized tool to evaluate hearing aid usage will allow for better practice management for audiologists, particularly in South Africa.

McCormark & Fortnum (2013) gathered data using a scoping review study and multiple reasons were discovered as to why people who have been fitted with hearing aids do not wear them. The most significant reason for non-use relates to hearing aid benefit, lack of speech clarity, and the fit and comfort of a hearing aid (Bertoli et al., 2009; Gianopoulos et al., 2003; Gopinath et al., 2011; Hartley et al., 2010). The next common reason appears to be the difficulty experienced in noisy situations/background noise, and poor sound quality (McCormark & Fortnum, 2013). Therefore, it is a growing concern to identify those factors that influence the non-use of hearing aids to allow for improved modifications to hearing aids. Hartley et al. (2010) and Gopinath et al. (2011) have identified challenges related to the care and maintenance of the hearing aid. These difficulties relate specifically to the deterioration of manual dexterity. These studies indicated that additional impairments or deterioration in manual dexterity particularly in the geriatric population may influence the non-use of hearing aids due to the difficulty experienced in utilising and maintaining the hearing aid. The abovementioned findings of factors influencing non-use of hearing aids highlight the need for the researcher to identify whether the same issues are experienced by geriatric hearing aid users. By identifying issues experienced by hearing aid users in South Africa, practice management and rehabilitation can be improved minimizing frequent follow-up appointments and extended costs for hearing aids.

As all research tends to focus on factors influencing non-use of hearing aids, this research aims to consider positive and negative factors that influenced getting used to wearing hearing aids. It is important for hearing aid users, particularly the geriatric population, to learn to adjust to using a hearing aid and identify factors which encourage the use of hearing aids. The first obstacles to overcome the issues of getting used to hearing aids include a person's acceptance of hearing loss, familiarising oneself with the functional impact of hearing loss

and recognizing the need and usefulness of addressing hearing loss (Dillon, 2012). Palmer et al. (2006) report on the need of hearing aid users to adjust to altered patterns of sound input, particularly in the high frequency region, as this may be annoying for first time users. To redress the abovementioned factors of non-use of hearing aids, Kricos (2006) recommends counselling in conjunction with hearing aid use to may be helpful. The audiologist is viewed as playing a fundamental role in facilitating the rehabilitation process (Dillon, 2012). Therefore, it is fundamental to understand the perspectives of the geriatric population on factors encouraging and discouraging hearing aid use as well as their experience in the audiological rehabilitation process.

Hence, much research has been done globally on the use of hearing aids and the factors influencing the usage and experiences of being a hearing aid user. Many studies tend to focus on the disuse of hearing aids, with little consideration into factors which helped the hearing aid user adjust to using the hearing aid. Moreover, less research has been done in developing countries such as South Africa. Through exploring the perspective of being a hearing aid user and factors influencing usage of the hearing aid by elderly hearing aid users in Gauteng, South Africa, the current study aimed to explore the need for change or improvement to the current hearing aid fitting and orientation appointments for better use and benefit of hearing aids by elderly patients.

Chapter 2: Literature Review

This chapter provides a review of literature that pertains to hearing loss, the geriatric hearing aid users, getting used to hearing aids (benefits and non-usage), and rehabilitation provided by audiologists. A literature review accomplishes the purpose of relating a study to larger, ongoing dialogues in literature, as well as to fill in gaps within existing literature and extend prior studies (Cooper, 2010).

Hearing loss

Hearing loss is a condition of growing concern globally, as it is the most prevalent sensory disability (Mulwafu et al., 2016). The WHO (2024) projects 2.5 billion people to have some form of hearing loss by 2050, with hearing rehabilitation required by 700 million people. The prevalence of hearing loss appears to be higher in Sub-Saharan Africa than more developed parts of the world (Mulwafu et al., 2016). Individuals with sensorineural hearing loss are suitable candidates for hearing aids (Polat & Eyupler, 2022). The etiologies of hearing loss can vary from genetic, environmental factors, or an unknown and some etiologies may include, prematurity, birth defects, genetic syndromes, chronic ear infections, specific medications, head and/or neck injury, noise exposure, trauma, physical injury, and many others (Pereira & Bahmad, 2015). Due to there being an array of possible causes of hearing loss, it is imperative that individuals are aware of the signs and symptoms of hearing loss, so as to allow timely assessment and management (Rawool, 2011). Hearing loss has a negative impact on health-related quality of life, particularly when it comes to the social and emotional aspects of communication (Bainbridge & Wallhagen, 2014).

It is fundamental to understand the significant effect hearing loss can have on someone's life, including poor general health, psychosocial effects (social isolation and depression) and higher unemployment (Louw et al., 2018). Communication in daily life can be severely hindered as individuals with hearing loss may have difficulty recognising speech in conversation, and difficulties detecting, identifying, and localising sounds (Bainbridge & Wallhagen, 2014). Difficulties in communication and in exchanging information with others because of hearing loss may lead to a perceived reduction in quality of life, particularly in older people (Dalton et al., 2003).

Hearing loss is a common chronic condition affecting older adults and is often missed as being either unimportant or an inevitable aspect of aging (Dalton et al., 2003). Individuals with hearing loss tend to ignore the severity of hearing loss on daily communication and participation in social gatherings. Dalton et al. (2003) conducted a study on the impact of hearing loss on quality of life, where the findings highlight the need of identifying individuals with hearing loss, and by improving services of providing hearing aids, assistive listening devices, and auditory rehabilitation to those individuals. By the early identification and prevention of hearing loss and providing appropriate hearing aids and listening devices, along with coping strategy methods, there may be a positive impact on the quality of life for older adults.

Hearing Loss in the Geriatric Population

Due to recent advances in healthcare, there is a concomitant increase in life expectancy (Parham et al., 2015). The World Health Organization (2015) statistics estimate the world population older than 60 years to double by 2050 and considers this growth as a global phenomenon. Therefore, as the geriatric population increases, the need for identifying improvements to the quality of life for the elderly is fundamental. This study intends to focus on improving hearing aid use in the geriatric population, hence leading to a better quality of life. Old age homes are meant for the geriatric population who; are unable to stay with their families, they are destitute and/or those who face health problems, depression, and loneliness (Panday & Kumar, 2017). A care home also houses the geriatric population and can offer personal care and 24-hour support with onsite nursing (Goodman et al., 2016). A care home differs from an old age home in which care home residents have a high prevalence of functional dependency cognitive impairment, multi-morbidity, and frailty (Goodman et al., 2016). There are various old age homes in South Africa that provide a haven for the elderly and allow them to experience a sense of security and friendship. Quality of life in elderly people has become more relevant with demographic shifts towards an aging society, hence there are concerns regarding their quality of life (Panday & Kumar, 2017). The geriatric population can age with grace and enjoy their old age with optimum health regardless of staying alone, with family, or at an old age home if they receive specialised care, which enhances their quality of life (Panday & Kumar, 2017).

With aging, several medically related problems are common and are classified as geriatric syndromes (Parham et al., 2015). These geriatric syndromes are interconnected having multiple causes which vastly affects the geriatric patient's functional status. Some well recognized geriatric conditions affect vision, balance, and hearing, with the most common sensory problem among the elderly is hearing loss (presbycusis) (Parham et al., 2015). Hence, with the growth of the aging population, greater emphasis is placed on understanding and focusing on the impact of presbycusis, to benefit geriatric patients.

The earliest symptoms of presbycusis appear late in middle age. However, onset may be variable, with multiple contributing factors (Parham et al., 2015). The earliest form of presbycusis causes progression in the high frequency range of hearing sensitivity due to cochlear changes (Patel & McKinnon, 2018. Daily communication sounds lie in the high frequency range hence patients tend to misunderstand similar-sounding words and compensate for this early deficit by using context (Patel & McKinnon, 2018). Presbycusis thus causes patients to have difficulty in hearing the consonants which help convey information. The result of presbycusis is a deterioration of speech intelligibility (Patel & McKinnon, 2018). Patients may therefore report sounds being muffled. Furthermore, like the natural frequencies of vowels and consonants, elderly patients may have trouble hearing women and children as their vocal registers are at a higher level than those of men (Patel & McKinnon, 2018). Over time, cochlear function deterioration extends towards the lower frequency region and functional consequences become more noticeable. This causes challenges to listen in noisy environments, and to fast-paced speech, with common complaints from older patients such as "I can hear the words, but I can't understand them", as speech intelligibility is disrupted (Parham et al., 2015, p. 40). Varied strategies are then sought by patients to cope with communication as patients tend to use a greater amount of higher order cognitive functioning, to assist them in understanding daily conversations. This leads to withdrawal from conversations and social environments, and isolation due to frustration from daily auditory difficulties (Patel & McKinnon, 2018). Management of hearing loss is dependent on the cause and type of loss. Management options of hearing loss may include assistive devices, adaptation of the environment, training of communication partners, amplification with hearing aids, aural rehabilitation, middle ear management, or direct stimulation of the cochlea via a cochlear implant (CI) (Phan et al., 2016). Hearing aids

are commonly effective in treating presbycusis, depending on the type and severity of the hearing loss (Phan et al., 2016).

Hearing Loss Rehabilitation: Hearing Aids

Recent systematic reviews have discovered the benefits of hearing aid use as being improvement in the quality of life, specifically for older people with mild to moderate hearing loss. This is achieved by decreasing the psychological, emotional, and social effects of hearing loss (Bainbridge & Wallhagen, 2014). An improvement in health-related quality of life is evident in older adults who use hearing aids, or hearing aids with programmable settings for different listening environments or assistive listening devices (Patel & McKinnon, 2018). Significant technological advances in hearing aids have expanded the range of hearing aid options available to improve usage. Digital hearing aids provide the following benefits: improved sound quality, multiple programmes for different listening environments, advanced noise reduction strategies, enhanced acoustic feedback reduction, Bluetooth compatibility and greater flexibility to manipulate frequency, compression, and additional gain (Doldouras, 2017). Hence, this allows the audiologist increased flexibility to select and adjust appropriate technology for the varied needs of older adults. Advanced hearing aid features, such as automatic function of telecoil and multiple programmes, can allow for individuals with limited manual dexterity or cognitive impairments to wear a hearing aid device, which will be optimised to perform across a broad range of listening environments (Doldouras, 2017). Furthermore, a typical complaint from, hearing aid users is difficulty understanding in speech in noise, however automatic directional systems has advanced to optimise the directional responsiveness of the hearing aid microphone (Doldouras, 2017). Directional microphones can focus on specific sources and exclude others, as they can suppress sounds originating from specific directions (Doldouras, 2017). Apart from allowing sound localisation and discrimination, directional microphones also allow for better speech intelligibility during noise, and thus the improvement of signal-to-noise ratio (Galster & Galster, 2015). Therefore, the broad range of hearing aid devices available today, along with their flexibility features, lead to the success of tailoring hearing aids to the specific needs of individuals experiencing hearing loss. Hearing aids are continuously developing to enhance its characteristics for rehabilitation and acceptance. Despite the development and advancement with hearing aids, many individuals with hearing

loss face challenges in obtaining a hearing aid due its provision in certain contexts and costing.

Hearing Aids in the South African Context

In South Africa, most of the population with hearing loss rely solely on receiving audiological services in the public sector as they cannot afford the services in private practice (Bhamjee et al., 2022). Developing countries such as South Africa face several challenges, including a shortage of audiologists, shortage of hearing aids, and a lack of access to equipment (Sooful et al., 2009; Bhamjee et al., 2022). The current hearing aid services in South Africa, including the dispensation of hearing aids, occur mainly at tertiary and secondary public hospitals (Sooful et al., 2009). The funding of government hearing aids occurs via the Government State Tender Board; however, there are challenges in the appropriate follow-up and maintenance services. The public sector is burdened with obstacles, such as the lack of provision of batteries for hearing aids, poor repair services, and inadequate follow up appointments (Bhamjee et al., 2022). Therefore, this implores the need of follow-up services to maintain hearing aid user in the geriatric population. According to Bhamjee et al. (2022), accessing and maintaining hearing aids within the public healthcare sector of South Africa is often challenging.

Appropriate and effective amplification followed by aural rehabilitation services tends to reduce the negative effects of hearing loss (Bhamjee et al., 2022). Through the consistent use of hearing aids, optimal benefit can be obtained. In Tshwane, South Africa there are several issues that impact the fitting of hearing aids, such as multilingualism, lack of interpreting services, literacy levels of clients, and cultural differences between clients and audiologists (Sooful et al., 2009). This can lead to the client not fully understanding all aspects covered during the hearing aid fitting and orientation. Multilingualism presents as an obstacle during the hearing aid fitting process as the language used by the audiologist may be different to the patients' language and results in the patient not correctly utilising their hearing aids correctly and to their full benefit (Sooful et al., 2009). Furthermore, finance also negatively influences the use and maintenance of hearing aids due to the cost of travelling to and from tertiary hospitals, as well as paying for repairs and batteries in Tshwane (Sooful et al., 2009).

The disuse of hearing aids in elderly people diagnosed with presbycusis in Johannesburg, South Africa was related to discomfort, lack of information about the hearing aids, difficulty with function and maintenance, and lack of patient involvement in the hearing aid selection process (Moroe & Vazzana, 2019). These findings suggested reasons why some elderly hearing aid users stop using their hearing aids post fitting. Hence, the current study intended to explore how the elderly overcome their hearing aid challenges relating to non-use and what encourages them to use hearing aids. This finding from the current study will allow for changes to the audiological fitting process to increase hearing aid usage.

Factors influencing getting used to hearing aids

The various factors of getting used to hearing aids have been indicated by audiologists through clinical observations, and in hearing aid research, through studies across the world (Brooks, 1989, Dillon, 2012). Dawes et al., (2014) conducted a study in Manchester, United Kingdom using three focus group with 16 adult hearing aid users, who described getting used to hearing aids from the perspective of participants. Participants reported multiple experiences and issues of getting used to hearing aids, and these were separated into different categories. The study identified the following categories: annoying sounds; distorted sounds; practical use; specific listening situations; and psychosocial factors (Dawes et al., 2014). Firstly, annoying sounds referred to background sounds, which were previously inaudible or quite to individuals with a hearing loss, have now been overamplified to levels which were disturbing and intrusive (Dawes et al., 2014). As the background sounds were overamplified and highly aversive, this may discourage new hearing aid users and thus lead to disuse. However, participants reported that consistent use of hearing aids resulted in a reduction in noticing the intrusive levels of background noise within a week of hearing aid use. According to Munro (2008), research studies have found acclimatisation to hearing aids to take several weeks or months. Secondly, distorted sounds referred to a feeling of having blocked ears, or certain sounds (such as one's own voice or chewing/swallowing) sounded either loud or distorted (Dawes et al., 2014). This was not a universal experience; however, it was a reason for inconsistent hearing aid use. Thirdly, practical use involved learning how to manage and maintain hearing aids and this posed a significant challenge to becoming comfortable and integrating hearing aid use into daily life (Dawes et al., 2014). Several practical issues were identified by participants such as hearing aid comfort being problematic; remembering and

integrating hearing aids into daily routine; physical manipulation of hearing aids (putting hearing aid in and out of ear); cleaning and maintenance of the hearing aid; and managing the batteries (Dawes et al., 2014). According to Dawes et al. (2014), challenges with any one of these single practical issues may prevent hearing aid users from continuing to use and benefit from hearing aids. Fourthly, specific listening situations referred to participants developing listening strategies in certain listening situations such as in crowded settings, at a cinema, listening to music or when using the telephone (Dawes et al., 2014). These listening situations led to hearing aids not being worn, as participants felt they were not receiving any benefit, or the hearing aids amplified aversive noise (Dawes et al., 2014). Lastly, psychosocial factors included both positive and negative psychosocial adjustments and challenges. Managing the stigma attached to hearing aids which either forced a re-evaluation of self-image in which assimilating the stigma associated with age-related hearing loss and use of hearing aids or boosting one's self-image positively in restoring confidence in communicative ability (Dawes et al., 2014). This correlates to positive and negative aspects of psychosocial adjustment, which were previously reported in hearing aid users (Saunders & Jutai, 2004). There is a dearth of information related to the non-use of hearing aids by hearing aid users in South Africa, within its diverse, multicultural, multilinguistic and multireligious society.

Kelly et al. (2013) conducted a study in the United Kingdom using focus groups to explore older people's beliefs on what would allow them to adjust to and gain maximum benefit from wearing a hearing aid. From this study, the key factor identified was that older people requiring more information than they received, both before and after the hearing aid fitting. Findings from the study revealed a lack of information about hearing aids and the lack of awareness of the process of rehabilitation services (Kelly et al., 2013). This led to participants having unrealistic expectations of hearing aids, such as restoring hearing back to 'normal', and therefore having concerns post the hearing aid fitting (Kelly et al., 2013). Help with device-related problems post fitting posed a challenge for participants, as disturbing sounds, feedback, as well as managing and manipulating the hearing aid led to non-use (Kelly et al., 2013). The need for information post fitting correlates to the abovementioned study in which caring and maintenance of the aid, coping with new sounds, when to wear the hearing aid, and communication strategies all need to be fully explained to the individual with hearing loss (Kelly et al., 2013, Dawes et al., 2014). Hearing aid support post fitting includes follow

up, an adjustment period, the management of hearing aid problems, cosmetic concerns, managing the batteries, inserting the aid, support to accept the hearing loss, and lastly assertiveness and confidence (Kelly et al., 2013).

McCormack and Fortnum (2013) conducted a scoping review to collate available evidence as to the potential reasons for non-use of hearing aids among adults aged 55-74 years of age, who would benefit from a hearing aid, but do not use one. This was achieved through gathering data from 10 articles using a comprehensive search strategy and the findings revealed the following issues for non-use:

- Lack of situations necessary for a hearing aid in one study
- Hearing aid value/speech clarity in seven studies;
- Difficulty in noisy situations and background noise in five studies;
- Poor sound quality in two studies;
- Participants found the device uncomfortable in eight studies;
- Participants indicated needing help in five studies;
- Care and maintenance of the hearing aid in eight studies;
- Issues of the device itself (e.g., feedback, volume control adjustment, changing batteries) in six studies;
- Attitude by participants who felt there is no need for a hearing aid, or they can hear well enough without one was mentioned in four studies;
- Lack of finances for the hearing aid in one study;
- And less common reasons related to psychosocial factors (hearing aid is a nuisance, forgot to use it); healthcare professionals' attitude (poor service from audiologist), and pressure from others to get a hearing aid.

Furthermore, globally there are various other studies which were undertaken across many years which have identified reasons which constitute non-use of hearing aids; as well as issues faced by hearing aid users in terms of 'getting used to hearing aids'. Studies by Kochkin (2000), Gianopoulos et al. (2002), Bertoli et al. (2009), Hartley et al. (2010), Gopinath et al. (2011), and Öberg, et al. (2012), have echoed and reported similar of the abovementioned reasons for non-use or difficulties as first-time hearing aid users through

their investigation. However, not all the above studies have focused on the geriatric population, as well as the factors that influenced hearing aid usage.

The role of the audiologist during hearing aid fitting and post fitting

It is evident that there is a concern regarding the maintenance and care of the hearing aid and manual dexterity. Older adults wearing hearing aids often experience difficulty handling the device, due to limitations in manual dexterity (Erber, 2003). As hearing aids are now created to be small to make it less noticeable and reduce concern of appearance of the device, this has been detrimental to those who have manual dexterity challenges (McCormack & Fortnum, 2013). If a hearing aid user has trouble in inserting, removing, or manipulating the hearing aid, they are less likely to wear them. According to Desjardins and Doherty (2009), it has been found that even experienced hearing aid users have a poor understanding of how to use their hearing aid. Another main reason why people are less likely to wear their hearing aid seems to be due to discomfort or not knowing how to insert them correctly. Therefore, it is fundamental for clinicians to ensure the hearing aid fitting process is accompanied by adequate counselling and support from the audiologist to assist patients in understanding how to use the hearing aid (Bertoli et al., 2009). The importance of counselling and audiological support in the fitting process has been emphasized in research studies. For example, Ferguson et al. (2011) identified that healthcare professionals and hearing aid users discovered practical topics including hearing aid insertion/removal, hearing aid functions and maintenance to be vital to aid the new hearing aid users experience. As a result, to enable patients to assimilate relevant information in their own home at their convenience, they have developed an interactive video tutorial. This could prove to be of the utmost importance to first-time hearing aid users as Gianopoulos et al. (2002) found hearing aid users to reject their aids for reasons of requiring better training in use of the aid. Kochkin (2000) argues that, to receive substantial benefit in hearing aid use, a first strategy is for rehabilitation to conduct subjective and objective benefit measuring every 30- and 90-days post hearing aid fitting. Further rehabilitation could include focusing on individual hearing aid users' difficulties, as well as one-year follow up appointments after hearing aid fittings, to improve hearing aid usage rate and cover rehabilitation issues (Goggins & Day, 2009). Heliopoulos and Moroe (2023) conducted a study focusing on audiologists' thoughts and practices on hearing aid trial periods in South Africa, and identified the process of adjusting and becoming accustomed to

hearing aids may be best achieved through audiologists providing a hearing aid trial period, with two weeks being the most recommended. Support and counselling may be more significant than expensive modern technology to increase hearing aid use (Heliopoulos & Moroe, 2023). It was found by Vuorialho et al. (2006) that follow-up counselling on hearing aid use can largely increase benefits obtained from a hearing aid. Therefore, the right support, information and counselling given at the time of hearing aid fitting is important. Finally, strategies that may help address information overload experienced by hearing aid users may include using simple language, limiting the amount of information presented, highlighting the most important points, and providing a written document/pamphlet for the user to take home and ensuring the users significant other or caregiver is included in the appointments. The abovementioned constitute the rationale for similar studies in South Africa, as there is a dearth of literature that considers hearing aid use. This will enable facilitating change and adaptations to current hearing aid fitting sessions, as well as audiological practices with new insight to audiologists, especially due to South Africa being a diversified context which requires adaptation to patient centered care.

Theoretical Framework

It is fundamental to base a research study on a theoretical framework as it aids the researcher to help ensure that they framed their research coherently throughout their design (Green, 2014). A theoretical framework also makes the research findings meaningful and generalisable. The current study used The Person-Centered Care (PCC) approach and The International Classification of Functioning, Disability and Health (ICF) Framework, which is discussed below.

The Person-Centered Care (PCC) Approach

The person-centered care (PCC) approach forms the basis of this research and is the overarching theory of this study. This theory emphasises the importance of healthcare professionals' knowledge to strengthen the health processes in a relationship with patients by accepting patients as persons with their own will and emotions, and in which individual's responsibilities and capabilities are highlighted (Ekman & Swedberg, 2022). The person-centered care (PCC) approach points beyond the individual from a medical perspective that focuses exclusively on biological and physiological factors (Ekman & Swedberg, 2022).

According to Ekman and Swedberg (2022), patient engagement and care satisfaction in healthcare systems is less than optimal. Based on this and the information explained in the literature review, it is essential to use this approach within the theoretical framework, as it concurrently takes into consideration the patient, particularly the aging population. Ekman et al. (2012), argues for person-centered healthcare for the new and growing generation of elderly persons, as this leads to an increasing demand for healthcare services as a proportion of the elderly population experiences increasing morbidity with impairments of functions and increasing limitations in activities. Moreover, incorporating this theory into the current study emphasises the need for recognition of the patient beyond their medical condition, particularly the elderly PCC appears as an essential component as the patient and their family are expected to be actively involved in the audiological appointments and fittings, allowing for better management of the elderly patients hearing loss and facilitating increased hearing aid use.

The PCC approach explains the listening process between the healthcare professional and the patient, by which the audiologist listens to, and understands the patient's needs and concerns (Ekman & Swedberg, 2022). When the audiologist ensures effective communication with the patient, this may lead to the patient feeling acknowledged and accepted and may help facilitate the hearing aid fitting to best tailor meet the patient's communication struggles. The theory also maintains that patients are people and should not be reduced to their disease or medical diagnosis. rom a person-centered perspective, healthcare professionals can plan and perform the management plan and rehabilitation process by recognising their patient as partners. Person-centered care includes shared responsibility, as well as coordinated care and treatment (Coulter et al., 2015). The person-centered care approach underpins this study, as it shifts away from targeting only the medical intervention for the patient, however intervention includes an agreement involving patients as active role-players in their care and the decision-making process, as this may also lead to increased usage of hearing aids. Moreover, it may allow for a readily accessible, tailored health plan to be formulated with each patient. Lastly, PCC has been identified as one of the five core competencies that clinicians must formulate to deliver quality healthcare in the 21st century (WHO, 2008). The quality of healthcare delivery in South Africa is implicitly related to the concept of patient-centred care and it is embedded in the Batho Pele Principles (Republic of South Africa, 1997) and the Patients' Rights Charter (Department of Health 1999). However, the implementation of these policy

directives is not evident in the healthcare system, and practices as many public hospitals are in the state of crisis in South Africa (Jardien-Baboo et al., 2019). According to Jardien-Baboo et al. (2019) the healthcare system in South Africa does not foster an environment that promoted patient-centred care, especially in public hospitals. Hence, it is essential that PCC is emphasised to healthcare practices, to ensure patient-centred care is achieved in both private and public practices in South Africa.

The International Classification of Functioning, Disability and Health (ICF) Framework

The International Classification of Functioning, Disability and Health (ICF) is a framework explaining the effects of health conditions and, more specifically, for comprehending the aspects of functioning and health (Gagné et al., 2009). It combines a social and biological paradigm to enable a more comprehensive understanding of human functioning (Granberg et al., 2014). It uses a 'components of health' classification as it characterises the elements of human functioning as opposed to merely the effects of a disease or condition (Granberg et al., 2014). The way a person functions is explained by their body (the *Body functions* and *Body structures* component) as well as by the activities and situations in which they engage (the *Activities & Participation* component) (WHO, 2001). *Body structures* refer to the anatomical components of the body, whereas *body functions* are the physiological operations of the body systems (Granberg et al., 2014). *Activities* refer to the performance of a task or action, whereas *Participation* refers to the act of being involved in life situations (Granberg et al., 2014). Within the International Classification of Functions (ICF), *Functioning* refers to all bodily functions, activities, and participation, while *Disability* encompasses all impairments, activity limitations, and participation restrictions (Granberg et al., 2014). The ICF also notes that *contextual factors* (personal and environmental factors) can have an impact on how well an individual functions (Granberg et al., 2014). Personal factors refer to the aspects of an individual that are intrinsic and unrelated to their health, such as their age or sex, whereas environmental factors comprise the physical, social, and attitudinal environment in which people live and conduct their lives (Granberg et al., 2014). All possible Body functions and structures, Activities & Participation and Environmental factors are listed as health domains in the classification. The ICF framework plays a role within this study as it has become a universally accepted framework across various medical disciplines (ICF Research Branch,

2012). By the implementation of the ICF within the rehabilitation process, the audiologist is enabled to consider the individual within the abovementioned levels relating to optimal use of the patients hearing aid as it encompasses all levels within their daily life, particularly activity and participation. The framework allows for the individual to not limit themselves from participation despite their use of hearing aids and to partake in conversations, meet with friends and family, and attend social gatherings and events.

Rationale

Increase Hearing Aid Use Among the Geriatric Population

The current study aimed to identify those factors which affect usage to hearing aids, specifically in the geriatric population. By gathering this information, researchers interested in hearing aid usage can focus on the factors identified, both positive and negative, and examine specifically what can be improved to increase hearing aid usage rates among patients. According to a scoping review conducted by McCormack and Fortnum (2013), one of the limitations of each study was the lack of in-depth findings of the reasons specifically influencing becoming accustomed to hearing aids. Consequently, this study intended to critically examine what factors can be improved to increase hearing aid usage rates among patients.

Advocacy and Education

Furthermore, the current study aimed to identify the effectiveness of hearing aid fitting and follow-up sessions to bridge the gap between the information and counselling provided by the audiologist during the sessions. It aimed to determine the patients understanding of information conveyed and their ability to use the information during hearing aid use. Findings will assist in guiding the improvement in the hearing aid fitting session, identify the need for follow up sessions, as well as enhance the extent of services available via the audiologist, if it is lacking. Additionally, the current study identified any issues which may impact utilisation and maintenance of hearing aids in the South African geriatric population who have hearing loss.

Rehabilitation and Quality of Life of the Geriatric Population

The current findings from the study can assist audiologists in exploring alternative and effective means of delivering hearing rehabilitation services to maximise hearing aid benefit by supporting users in a targeted manner, in the process of getting used to hearing aids. Findings from the study may improve the quality of life of the geriatric population and explore their needs as hearing aid users for optimal hearing aid use and benefit, which will lead to improved speech understanding and communication. Lastly, as the geriatric population is increasing globally and the hearing loss rate is rising, there is a need for studies to be performed to protect the hearing of elderly people through prevention, promotion and advocacy.

In view of the aforementioned, the current study aimed to answer the following research question: *What is the geriatric users' perspective on getting used to hearing aids, in Gauteng, South Africa?*

Chapter 3: Methodology

Aims and Objectives

Primary Aim

To investigate the perspectives of geriatric participants during the process of getting used to wearing hearing aids.

Sub-Aims

1. To explore those factors that influence getting used to wearing hearing aids
2. To explore those factors that encourage and discourage the usage of hearing aids.
3. To determine the perceived impact of follow-up fitting sessions.

Research Design

A qualitative narrative design was used to understand and analyze the lived experience of hearing aid use shared by the participants. It was used to explore getting used to hearing aids from the perspective of geriatric hearing aid users. Qualitative research allows us to understand social phenomena in a natural setting, allowing us to access meanings, experiences, and views of participants (Glesne, 2015). A narrative approach aims to focus on the meaning an individual attaches to an experience through the process of storytelling (Tomaszewski et al., 2020). Therefore, a narrative research design was advantageous to this study, as it helped better understand how participants interpret and make sense of their experiences as the researcher examined how their experiences were told.

Context/Research Site

Various old age homes in Johannesburg were approached by the researcher to identify if they have a minimum of five residents who wear hearing aids. Therefore, the researcher found only three old age homes in which there were five to six residents who have/wore hearing aids. Participants were recruited from three old age/ care homes in Johannesburg, Gauteng. Six participants were recruited from one old age home, with five participants from a second

old age home and five participants from a third old age home. All are care centres for the geriatric and are in well-developed communities. These old age/care homes are residential facilities, and include individuals from different races, cultures, and languages. Individuals in the homes are either of good health or may present with disabilities. One of the old-age homes is a government funded, with the other two being privately funded. The researcher conducted the study and hosted the focus group discussions at the residing old age/care homes of the participants. As participants were aged 65 years and older, hosting focus group discussions to collect data at their residing home was advantageous to the clients making it easier, comfortable, and cost effective for them.

Sampling Approach

For this study, non-probability, purposive sampling was used to source participants with hearing aids from 3 old-age/care homes. Therefore, in the current study, an advantage of using purposive sampling was that individuals who have experienced hearing aid use were invited to participate. Old age/care homes were selected based on those willing to participate upon request. Non-probability sampling is based on judgement, and not random selection. This sampling approach was suitable for this study as a clear rationale for the inclusion of some clients rather than others is needed for non-probability sampling (Taherdoost, 2016). In addition, purposive sampling was used as it is a commonly used procedure for focus group interviews (Roberts, 1997). Purposive sampling is an approach of extending knowledge by deliberately selecting sample participants who are known to be rich sources of data (Esin et al., 2014).

Sample Size

The three focus groups consisted of 5-6 participants respectively. Mishra (2016) describes a focus group size of 6-8 participants per focus group as ideal and reports that they can work successfully with as few as three participants. Hence, each group were limited to a manageable size for focus group discussions as a smaller size group is beneficial to facilitate interaction with participants with hearing impairment.

Selection Criteria

Inclusion Criteria

- Participants to be elderly, male, or female, aged 65 years and older
- Participants wear hearing aids, either unilaterally or bilaterally.
- Participants who have worn hearing aids at least once in the past three months as they were able to report their experience.
- Participants to be residing at 1 of the 3 old-age/care homes.

Exclusion Criteria

- Participants under the age of 65 will be excluded from the sample.
- Participants with severe cognitive impairment that would prevent them from participating effectively in a focus group discussion.

Data Collection

Instruments and Procedures

The research proposal was submitted to the Non-Medical Ethics Committee at the University of the Witwatersrand. Prior to commencement of data collection, a letter of request (Appendix 3) was sent to the old age homes to request permission to host focus groups with the participants. Once permission was granted, participant information sheet (Appendix 4) and participant consent form (Appendix 5) was provided to the three old-age/care home for completion by participants. Participants were required to complete a short self-administered demographic questionnaire (Appendix 7) for the researcher to obtain general participant information prior to the focus group discussion. The demographic questionnaire was administered in English and assistance was provided if required due to visual difficulties, dexterity issues etc. Demographic questions are included in questionnaires to gather information about the individual such as age, sex, level of education, ethnic group as well as hearing aid details (Kawamura, 2010).

Data was collected through focus groups, whereby 1 focus group was held at each of the 3 old-age/care homes. Participants were grouped according to the home that they belong to. Each focus group discussion lasted approximately 1 hour. The focus groups were conducted on 3 different days. The focus group discussions were held in a quiet, well-lit room. Participants were all seated in an arrangement that facilitates good visibility and communication, ensuring that everyone could see each other. Participants were required to wear their hearing aids during the focus group discussion. Data were collected from focus groups utilising audio-recordings using a digital recorder and consent was obtained from participants (Appendix 7). Focus group audio recordings were transcribed (Appendix 10). As a quality check, the researcher checked the transcript against the audio recording. Each focus group followed the same procedure as described in Table 1 (adapted from Laplante-Lévesque et al., 2013).

Table 1

Focus Group Procedure

Introduction (Approximately 5 min)	The researcher introduced herself. The researcher invited the focus group participants to introduce themselves.
Rules (Approximately 5 min)	The researcher discussed the roles of the researcher. The researcher emphasised the importance of participants' own perspective, instead of general statements or second-hand perspectives. Simple focus group rules were discussed, for example, the researcher informed the participants to respect the opinions and welcome all discussions by all participants. Turn-taking was emphasised to facilitate communication. Confidentiality was accentuated.
Focus-group discussion (Approximately 50 min)	Audio recording commenced here. The researcher used open ended questions that related to each sub-aim to guide the topics for discussion (Appendix 4). The researcher encouraged all participants to participate in the discussion. Each focus group used a semi-structured format, and the researcher followed he groups' train of thoughts while still ensuring all topic guide items were discussed.
Thank you and refreshments	The researcher thanked the participants for their participation. Thereafter, refreshments were provided.

The focus group discussion was based on topic guide questions. This researcher introduced the questions as the discussion commenced. Topic guided questions are listed in Appendix 6.

Data analysis

Thematic analysis is a research method that identifies, analyses, and interprets patterns of meaning ('themes') within qualitative data (Clarke & Braun, 2017). Thematic analysis allows one to understand the perspectives of a variety of participants, while highlighting similarities and differences between clients (Clarke & Braun, 2017). Through thematic analysis, one can obtain a rich and insightful amount of information.

Thematic content analyses were used to analyse the findings from the current study. In this approach, replicable and valid inferences from data to their context can be made, with the intent of providing knowledge, new insights, a representation of facts and a practical guide to action (Clarke & Braun, 2017). Focus group audio recordings were transcribed by the researcher after the focus group discussions. As a quality check, the researcher checked the transcript against the audio recording a few times. Qualitative research software Atlas.ti was used for analysis of the focus group transcript. Analysis began by identifying concrete content (i.e., what clients say) to give an overall description of the data. In this current study, analysis was extended to include identification of thematic content.

Narrative interviews were transcribed and coded to identify common themes between interviews. This helped to provide a rich thematic description of the data obtained (Braun & Clarke, 2006). An inductive, or bottom-up approach to thematic analysis was used. In an inductive approach, the themes identified are strongly linked to the data collection. Themes identified are data-driven, and coding does not occur through a means of fitting into a pre-existing coding frame (Lochmiller, 2021). In order to complete thematic analysis, the researcher completed six phases of analysis, namely, familiarising oneself with the data, generating initial codes, searching for themes, reviewing themes, defining and naming themes, and producing the report (Lochmiller, 2021).

Ethical considerations

Ethical considerations were upheld in this research study. The research process only commenced once ethical clearance was obtained. Ethical clearance was provided by the Ethics Committee in agreement with all the codes of ethics (Appendix 2). The Ethical Protocol Number for this research was **H24/09/18**. Furthermore, ethical considerations were

based on the published standards and code of ethics for researchers by the American Psychological Association (2017) and the British Psychological Association (2014).

Rigor and Trustworthiness

Rigour refers to the trustworthiness in qualitative research studies; it is characterised as the consideration by which a researcher leads their study, from the early phases of accumulating data to the analysis and conclusion (Naughton & Hughes, 2008). Rigour is a critical part of research quality, and it should be guaranteed in every study.

To maintain the credibility and trustworthiness of this study, various methods of data collection and analysis were used. Furthermore, non-probability, purposive sampling was used for this study. This minimised subjective bias during the selection of the sample, and ensured the sample analysed was accurately and fairly represented (Shenton, 2004). To obtain truthful and honest information, all clients were provided with the right to withdraw from the study at any point and were not provided with any advantages by partaking in the study. This ensured clients had a willingness to provide true and accurate information throughout.

The ethical principles which were adhered to included:

a) Informed Consent

Each client was informed about the study before the commencement of the study. Participants were requested to participate in the study willingly. Before the commencement of the focus group discussions, the client was provided with an informed consent letter to complete (Appendix 5).

b) Confidentiality and Anonymity

The following steps were taken to ensure confidentiality and anonymity in the dissertation write-up but not during the focus group discussion:

- No names or identifying information were made available in this study.
- Clients will be randomly assigned numbers, not in the order in which they were sitting in the focus group for information included in the final write-up.

- Names of clinics, hospitals, and/or private practices where participants were fitted with hearing aids or currently are patients at will not be mentioned in this study.
- Names of healthcare professionals will not be mentioned in this study.
- All information will be saved in a password-protected file on the researcher's computer. There is a permitted time allowance of five years to store data, after which it will be deleted.

Confidentiality during the focus group discussion:

- The researcher informed participants of the importance of confidentiality of the focus group discussion. Participants signed the participant information sheet which stated that the focus group discussion should remain confidential along with participants responses.

c) Beneficence and non-maleficence

There will be no direct benefit received by clients, although the study will allow for a basic training on the use, care, and maintenance of their hearing aids after the focus group discussion is completed. Participants were encouraged to be respectful of each other's privacy and not speak of the points discussed outside of the focus group. Clients were informed of their right to withdraw from the study should they experience any distress or discomfort any point. The researcher aimed to monitor any distress or discomfort experienced by clients and was willing to stop the focus group discussion if noticed in any of the clients until the client is comfortable to continue again. However, the study had minimal risks, as it involved no application of clinical tests of procedures. Clients were provided with the researchers contact details (email address) for any feedback, concerns, or queries.

d) Justice

The researcher exercised reasonable judgement and ensured that potential biases towards gender and hearing aid use did not lead to unjust collection of data as all viewpoints were allowed to be shared.

e) Integrity

The researcher hopes to promote accuracy, honesty and truthfulness when reporting on the data collected. All information was meticulously interpreted with the avoidance of intentional misinterpretation.

f) Bias

The researcher reduced bias during the focus group discussion by preparing a structured guide and encouraging open and honest participation during the discussion. The researcher avoided leading questions and comments which swayed participants' opinions. As focus groups may cause groupthink bias in which participants conform to the dominant views and opinions of other participants, the researcher minimised this dynamic by requesting that all participants express their own individual perspectives. The research created a safe and respectful environment for all voices to be heard.

Chapter 4: Results and Discussion

The following chapter presents the results according to the sub-aims of the study with an ensuing discussion. Results from this study are detailed according to the themes in which they were identified and in order of the most significant themes. Each focus group discussion was transcribed, and thematic analysis was conducted. To complete thematic analysis, the researcher completed six phases of analysis, namely: familiarising oneself with the data, generating initial codes, searching for themes, reviewing themes, defining, and naming themes, and producing the information in the results chapter (Braun & Clarke, 2006).

Description of the sample

The study comprised 16 participants from three old age homes in Gauteng, South Africa. Participants completed a short demographic questionnaire, which explored basic background information regarding their hearing aids and hearing aid use. The questionnaire responses were tabulated (see Appendix 8). The age range of the participants in the study ranged between 69 to 89 years old, with six clients being male and 10 being female. Fourteen clients were fitted bilaterally with hearing aids and two clients were fitted unilaterally with a hearing aid. There was one client who was fitted recently (one week prior to the study) with a hearing aid, with the rest of the clients been fitted from one year to more than 10 years ago.

Twelve participants were fitted with behind-the-ear (BTE) hearing aids and four participants with receiver-in-the-canal (RIC), with 14 participants wearing their hearing aids daily and two participants did not wear the hearing aids regularly. Participants were asked to self-rate their difficulty without a hearing aid during listening situations and communication with results indicating eight participants experiencing significant difficulty, seven participants experiencing moderate difficulty and one participant reported to not experience significant difficulty when not wearing hearing aids. Furthermore, 11 participants were highly satisfied with the benefit received when wearing hearing aids, four participants were moderately satisfied, and one participant being dissatisfied with their hearing aids. All clients reported to be retired and living at the old age homes.

Results from this study are detailed according to the themes that were identified. The themes will be related to the aims and objectives of the study, mentioned below:

Primary Aim:

To investigate the perspectives of geriatric participants during the process of getting used to wearing hearing aids.

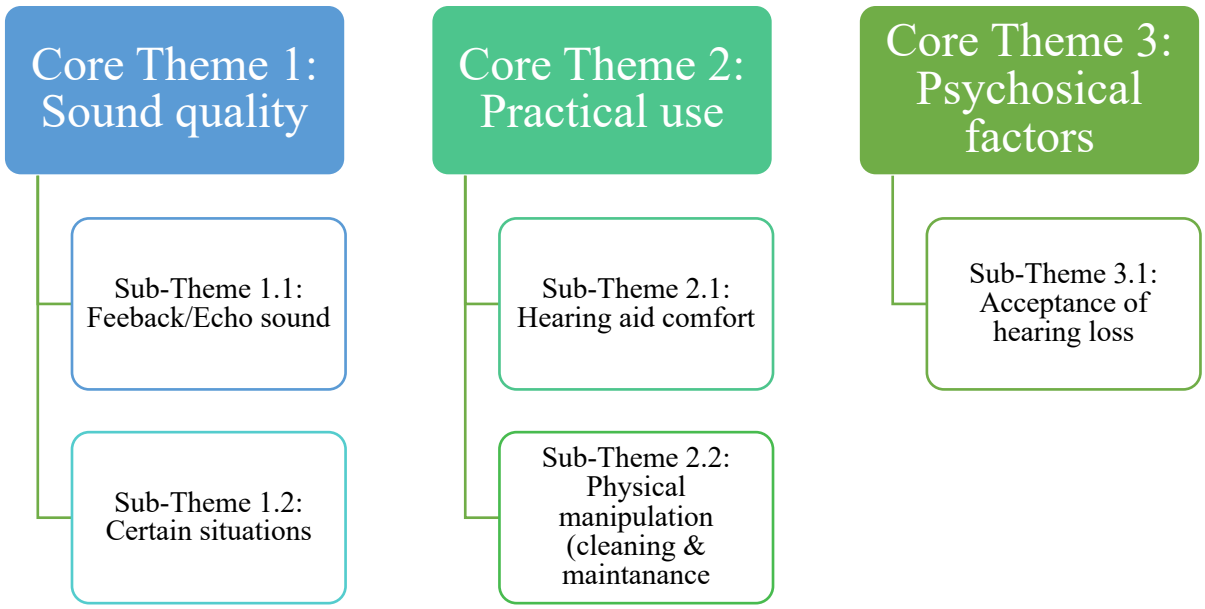
Sub-Aims:

1. *To explore those factors that influence getting used to wearing hearing aids.*
2. *To explore those factors that encourage and discourage the use of hearing aids.*
3. *To determine the perceived impact of follow-up fitting sessions.*

Data analysis revealed three core themes. Each theme was found to either positively or negatively affect the geriatric participants' experiences. To fully understand each theme, both the positive and negative aspects of each theme will be reported and discussed together. Figure 1 illustrates the three core themes that were identified, along with their relevant subthemes.

Figure 1

Core themes and sub-themes obtained



Results & Discussion of Sub-Aim 1 & 2:

> *To explore those factors that influence getting used to wearing hearing aids.*
> *To explore those factors that encourage and discourage the use of hearing aids.*

There was a correlation and overlap between findings of sub-aim 1 and sub-aim 2, where the findings of both sub-aims were merged into the themes below. The results are presented according to the themes and sub-themes that were identified. A discussion of the results follow.

Results of Core Theme 1: Sound Quality

All participants (cited verbatim throughout) reported the quality of sound to be the most challenging experience during the commencement of hearing aid use. The experience and quality of sound produced by the hearing aid was the first thing that influenced getting used to hearing aids by the participants. Two aspects that impacted on the sound quality from the hearing aid was the feedback/echo sound when wearing the hearing aid and the clarity of sound, particularly in certain situations.

Sub-theme 1.1: Feedback/Echo sound

An initial experience of wearing hearing aids was hearing background noise at a loud level and hearing one's voice at a high pitch. This experience was common among six participants. Participants reported that background noises, which were previously inaudible were now amplified and similarly their own voice became distracting as it presented as an echo sound, utterances include:

"*When I first got the hearing aid, there was an echo and my voice was too loud but now not anymore."*(P1)

"I adjusted well to the hearing aid, in the start the hearing aid was too loud for me but after a while it was fine."(P2)

Another participant reported feedback to be a concern occasionally, but by adjusting to the hearing aid, the feedback sound subsides:

"Sometimes when I have my hearing aids in, I hear like a 'whoo' sound' like noise, especially when my watch is near, it picks it up but eventually it stops when I move my hearing aid around." (P4)

Sub-theme 1.2: Clarity of sound in certain situations

Another factor relating to sound quality of the hearing aids was the clarity of sound transmitted through the hearing aid in certain situations. The following statements are based on situations in which hearing aid users experience difficulty or are not entirely satisfied with the hearing aid. One participant indicated that certain people talk too fast or too soft and this influenced her process of getting used to wearing the hearing aids. She expressed:

"Sometimes I can't understand everyone, some people I can't understand what they are saying, and I can't understand what they are saying or when people are not looking at me, I won't know if they are calling me or speaking to me." (P3)

Another concern was difficulty hearing clearly when speaking on the phone.

"I cannot always hear on the phone, and I then say 'sorry what did you say.'" (P3)

Additionally, one participant did not seem to find the hearing aid helpful when watching television, as he indicated that he was not receiving optimal amplification. He expressed:

"I still struggle to hear with the hearing aid, the television for example, I will be watching but I cannot hear." (P5)

On the contrary, six participants adjusted to the quality of sound easily but they tended to struggle in background noise. It was stated:

"I can hear very clearly with the hearing aid when I am watching TV, I only struggle when there is a lot of people talking in the dining room" (P7)

"When watching tv the hearing aid is very loud, then I must press it to make it softer. Then when I am outside talking to someone, I make it louder again." (P13)

"I really struggle in background noise, when lots of people are talking." (P8)

"When a lot of people are talking, then the hearing aid seems louder." (P6)

"When a lot of people talk together, then I think it would be confusing." (P10)

*"When we attend events, our gatherings, when there is lots of noise, I can't hear the individual people talking or when there is music in the background."(*P14)

However, the following statements relate to the positivity of the sound quality through the hearing aid and situations in which the hearing aid is most useful for the participants.

"When I need to go buy something or when they talk about menu items, I can now hear." (P10)

"I can hear clearly when speaking to my family and friends." (P11)

"*When the TV is on, when I put my hearing aids on, I can hear the TV clearly."* (P4)

"When I visit my family members, I can hear them." (P1)

"When I am communicating, when I talk with people in a group, it's better than what it was." (P3)

"*Well it feels better that I can communicate better."* (P2)

Participant 15 and 16 found their hearing aids to be useful in almost all situations as they receive optimal benefit with them on. A final statement from one participant expressing his satisfaction with his hearing aid:

"For me it is the most useful thing. I can't say it is not useful, it is best from the time I put it on." (P4)

Therefore, the abovementioned situations answer sub-aim 2, which aimed to explore which factors discourage and encourage the use of hearing aids.

Discussion of Core Theme 1: Sound Quality

Poor sound quality relating to feedback, disturbing background noise and/or echo of one's voice was ubiquitously reported by participants. Feedback can often be disturbing and uncomfortable for hearing aid users, and it can be generated by various factors including improper placement in the ear canal (Hofheinz, 2022). It is noteworthy that participants in the current study stated that the experience of feedback subsides as the duration of wearing the hearing aids increased. Research indicates that hearing aid users adjust rapidly to annoying sounds within a week of wearing hearing aids, and that the background noises tend to be less intrusive (Munro, 2008). A South African study also found background noise to be a contributor to not wearing hearing aids consistently (Moroe & Vazzana, 2019). However, success depends on the consistent use of the hearing aids (Dawes et al., 2014) and acclimatisation to them can vary from weeks to months (Munro, 2008). The findings of acclimatising to the feedback sound from hearing aids by the participants in the study correlate to the abovementioned research. According to Hofheinz (2022), feedback management ought to be applied by the audiologist to overcome sound quality issues experienced by the hearing aid user. If the hearing aid user has sound quality issues with the hearing aids, the audiologist may correct the placement of the hearing aid in the ear canal, change the fit of the earmold of size of the vent, check for cerumen in the earmold or hearing aid and/or provide high and stable gain (Hofheinz, 2022).

Hearing aid satisfaction relates to personal experiences and needs. Munro (2008) found that trialled hearing aid use provides the user the opportunity to experience amplification in different listening situations before purchasing the hearing aid. Hearing aid users should be encouraged to experiment and explore ways of maximising hearing aid benefit, however caution is needed to ensure that manipulation of the hearing aid does not lead to mal-adaptive usage or non-use. Dillon (2012) has recommended that audiologists teach active listening strategies and techniques to boost communication, such as watching the speaker's face, ensuring foreknowledge of the topic of conversation, and minimising noise and reverberation. These strategies ought to be discussed concisely with patients during their hearing aid fitting and follow-up appointments to ensure that the user obtains the maximum sound quality

benefits. Moroe & Vazzana (2019) also suggested the geriatric population have realistic expectations of the hearing aid and understand limitations as well as advantages of hearing aids through effective counselling. Through adaptation of these strategies, incorporating the ICF framework into adequate audiological services can have an impact on how well an individual functions as it considers contextual factors as well as the individuals' participation and daily activities (Granberg et al., 2014).

Results of Core Theme 2: Practical use

Additional factors that influence hearing aid users' initial experience is learning how to manage and maintain their hearing aid. This relates to practical use of incorporating the hearing aid into hearing aid users' daily routine, becoming comfortable with it, and physically manipulating the hearing aid. Participants identified practical factors that influenced getting used to wearing hearing aids, mainly the comfort of the hearing aid and cleaning and maintaining the hearing aid.

Sub-Theme 2.1: Hearing aid comfort

The issue of discomfort was problematic for all 16 participants, however 15 of the participants conveyed that the hearing aids became more comfortable with use, and at times the hearing aids were even not noticed by the wearer. This can be seen in the following expressions:

"I put it on in the morning, then I forget to take it off." (P1)

"When I walk out of a room and I forgot to put my hearing aid on, I feel like I am missing something, yeah I need it." (P2)

"Yes absolutely, I am comfortable with my hearing aid. Sometimes I even forget to take it off, and when I see I have it on before bed, I say 'oh wow, it's still there."(P4)

"I put it on from after I wake up and bath, I use it the whole day." (P13)

"I am wearing hearing aids for many years now, it is very comfortable." (P16)

One participant reported to experience discomfort with the hearing aid occasionally:

"I just got used to it, it was not difficult, only the right hearing aid hurts my ear, it is a little uncomfortable, but when I push it in more it is ok." (P10)

Sub-Theme 2.2: Physical manipulation (cleaning & maintenance)

Physical manipulation of the hearing aids refers to inserting the hearing aid in and out of the ear, as well as using its features, such as: inserting a battery, adjusting the volume, cleaning and maintaining the hearing aid. This task of manipulating the hearing aid required some practice for six participants, although other participants reported no difficulty from the beginning of use. Approximately five participants tend to rely on help by the nurse or caregiver to insert and remove their hearing aids daily and/or changing batteries and/or cleaning of the hearing aid. One major concern for assistance needed in the abovementioned aspects of hearing aid use is dexterity issues, due to the age of the participants, as expressed in the utterances below:

"I find it very difficult to put the hearing aid in and take it off, my fingers and hands shake, I have to ask for help every day to insert it." (P3)

"Me too, I find it very hard to put the hearing aid in and remove it." (P5)

"One of my friends come help me every day to put it in and to help change batteries when needed." (P15),

(Similar concerns reported by participants 7, 10 and 11 can be seen in Appendix 10)

Furthermore, participants reported a lack of information during the audiological fitting session, or possibly a lack of memory retention, especially when related to the volume button. For instance, this concern was highlighted by three participants, not being aware of the ability to increase and decrease volume on the hearing aid with the following expression:

"I've never touched the volume button, as I do not know how to use it that is why I prefer not to touch it." (P2)

Additionally, Participant 5, who struggles with dexterity, reported:

"I don't really increase the volume as I don't touch any of the buttons."

Positively, one participant who was familiar with this aspect of adjusting the volume stated:

"The booklet given to me at the clinic helped me get used to the hearing aid as I followed the instructions to help learn to put the hearing aid in and take it off and I refer to it for any help." (P14)

Cleaning and maintenance of hearing aids was a concern for two participants. Participants who had difficulty when cleaning their hearing aids, specifically when there is wax build-up or when they need to change the batteries of the hearing aid rely on help from friends, family and/or assistants/nurses at the home expressed the following:

"Sometimes I feel like I got wax on the earmold and it affects the sound." (P2)

"I get the same problem, but the caregiver assists me in cleaning the hearing aid." (P4)

Changing batteries also presented as a challenge for 5 participants and they rely on help when changing the batteries:

"I tell the nurse the battery is flat, and she puts a new battery in the hearing aid." (P7)

"My friend cleans the hearing aid for me." (P13)

However, there are participants who can clean their own hearing aids and change the batteries:

"I manage to clean the earmold and hearing aid and change the batteries myself." (P10)

"I clean my hearing aids regularly and change the batteries when needed." (P16)

Discussion of Core Theme 2: Practical use

According to literature, one of the main reasons why people tend to not use their hearing aids is due to the discomfort they experience when doing so, or because they do not know how to put them in correctly (McCormack & Fortnum, 2013). However, 99% of participants in the current study reported to adjust well to the comfort of the hearing aid and discomfort not being a main concern. Previous literature suggested disuse of hearing aids to be due to discomfort experienced by the user (Dawes et al., 2014). However, the current study findings could possibly be attributed to the hearing aid fitting process being easily explained with well effective counselling and support provided by the audiologist. A study by Moroe and Vazzana (2019) also found that with age, comfort plays a significant role in making life enjoyable. Hence, comfort should be a standard consideration in ensuring elderly people receive the best ear care as this influences their comfortability in hearing aid use leading to enhanced quality of life (Mueller et al., 2013; McCormack & Fortnum, 2013).

Practical issues paired with hearing aid use pose a major challenge to hearing aid users during the first fit. Research studies have found elderly people to have difficulty in handing hearing aids due to limitations in manual dexterity (Erber, 2003). This limitation in manual dexterity in the geriatric population affect their capabilities relating to the fine adjustments and controlling of the hearing aid, as well as care and maintenance (McCormack & Fortnum, 2013). The following health conditions is also common in the geriatric population and affects their manual dexterity; cancer, cardiovascular disease, arthritis, Alzheimer's and Parkinson's disease (Shenoy & Harugeri, 2015). In the current study, factors of difficulty in daily use of the hearing aid, such as fitting the hearing aids as well performing tasks of adjusting the volume, changing the battery and cleaning/maintaining it are due to limited manual dexterity and hearing aids being quite small and fiddly devices. The geriatric population may experience difficulty with cerumen management which is a common problem with their hearing aids being blocked with cerumen. The need for help by elderly hearing aid users is common as proven in previous studies (McCormack & Fortnum, 2013). As the elderly are dependent on help and assistance from caretakers, nurses, friends and/or family, it is essential

that these particular persons attend the hearing aid fitting appointments. According to Desjardins and Doherty (2009), experienced hearing aid users also have been found to have a poor understanding of how to use their hearing aids. Therefore, it is fundamental for audiologists to assess a patient's ability to use their hearing aids and ensure they will have help if needed. Providing information in a written format as standard practice to take home may be beneficial particularly for the geriatric population (Dawes et al., 2008). Therefore, the person-centered care (PCC) approach is applicable to incorporate as an audiologist in the hearing aid fitting. The PCC emphasises the importance of healthcare professionals' knowledge to strengthen the health processes in a relationship with patients by accepting patients, where persons with their own will and emotions and by identifying the person's ability to use the hearing aids.

Results of Core Theme 3: Psychosocial Factors

Getting used to hearing aids involve a wide range of psychosocial adjustments and challenges for hearing aid users. Participants in this study reported initially having to accept they have a hearing loss prior to wearing hearing aids. This influenced their decision to get hearing aids.

Sub-Theme 3.1. Acceptance of hearing aids

Two participants reported friends and family recommended a hearing assessment due to a level of denial and reluctance to accept the possibility of hearing loss:

"My kid would say 'Dad, why are you in denial, you need to get your hearing tested' and that's when it started, and I found yes, I am struggling to hear clearly." (P4)

Another participant expressed her concern for her hearing loss, however, due to the stigma attached to hearing loss and hearing aids, she was reluctant to get hearing aids:

"A first, I did not want to wear hearing aids as I had a few friends who did not like wearing them, I was adamant I did not want one. Then suddenly I realised I needed one and it is the best thing that could have ever happened. My hearing is better, and I communicate better from what I was." (P3)

However, despite the initial reluctance to accept their hearing loss by three participants, they are now comfortable with their decision and are satisfied in wearing hearing aids, with Participant 2 ending off with an expression:

"I'm just happy with it, it is part of my daily life. Sometimes I don't hear everything, but most of it I do."

Discussion of Core Theme 3: Psychosocial Factors

A major factor which influenced getting used to hearing aids was the acceptance of a hearing loss. Accepting a hearing loss is known as a pre-condition to successfully getting used to wearing hearing aids. The grieving process is known to be a difficult ordeal for individuals with acquired hearing loss. Taylor and Mueller (2020) have suggested a commonly held belief that adults with acquired hearing loss of late onset (including the geriatric population) go through Kübler-Ross's five stages of grief: denial, anger, bargaining, depression, and acceptance in Table 2 (Taylor & Mueller, 2020). It is therefore fundamental for audiologists to obtain an understanding of which stage the individual with hearing loss falls into during the hearing aid appointment and fitting. Involving family members and significant others is fundamental when guiding hearing aid users through these five stages. According to the stages, denial and anger are the simplest to observe, as individuals report ("I can hear fine, my family members talk too soft.") (Taylor & Mueller, 2020). For an individual experiencing hearing loss for the first time, or receiving news of having a hearing loss, it is easy to simply ignore the problem. Individuals do not strongly deny their hearing loss, they acknowledge the hearing loss as they are seeing the audiologist but can be in denial due to emotional pain and stress. Bargaining often presents in the form of comparing or devaluing ("Why are you worried if I can't hear?" or "I can't hear but I have good health") (Taylor & Mueller, 2020). Individuals may feel like their hearing loss is not permanent although they acknowledge it. Depression manifests itself in sudden changes of behaviour (Taylor & Mueller, 2020). Lastly, acceptance appears in various forms, such as, the individual is more accepting of the audiologists' recommendations, tends to wear the hearing aids more often, or has positive comments concerning hearing aid use. Therefore, it is advantageous if audiologists have some insights into how the five stages of grieving manifest themselves in daily practice and

dealing with hearing loss. Additionally, the audiologist adopting the PCC approach allows for treating the individual with dignity, and considering their grieving of hearing loss, rather than focusing exclusively on the medical perspective. The acceptance of hearing loss is considered by Munro (2008), where the participants reported getting used to the hearing aids successfully, required consistent hearing aid use, determination, and persistence on the part of the hearing aid user. According to Meyer and Hickson (2012), supportive friends and family are seen as helpful in acceptance of hearing loss, and many participants in the current study expressed the guidance and encouragement received from their family. The ICF framework plays a vital role in considering the family members of the individual with hearing loss as the hearing loss impacts all members involved in the individual's life. It aids the individual with hearing loss to function adequately in personal, contextual, and environmental factors. The PCC framework ensures the hearing aid user is identified as a 'person' rather than an individual with a disability . For the hearing aid user to accept their hearing loss and become comfortable with hearing aid use, effective communication by the audiologist with the patient is essential. Therefore, through the audiologist implementing PCC, it may lead to the patient feeling acknowledged and accepted and may help facilitate the hearing aid fitting to best tailor meet the patient's communication struggles.

Table 2

The Elisabeth Kübler-Ross Five Psychological Stages of Grieving, Applied to Hearing Loss (Taylor & Mueller, 2020).

Stage	**What the Individual Might Say**
Denial	"I don't have a hearing problem; other people mumble. I hear everything I need to hear."
Anger	To their friends: "Are you purposely talking behind my back?" To the professional: "Are you sure you did the testing correctly?"
Bargaining	"Okay, maybe I just wasn't listening, I'll pay more attention." "Let's see if I'm still having problems next year."

Depression	"Maybe my family avoids me because of my hearing loss." "There are things I'll probably never hear again." "I'm getting old."
Acceptance	"My quality of life will probably improve with the use of hearing aids." "A lot of people my age has worse health problems than hearing loss."

Results of Sub-Aim 3: The perceived impact of follow-up fitting sessions

To determine the perceived impact of follow-up fitting sessions.

When participants were asked to think back to the follow-up sessions post hearing aid fitting and to describe the impact of those sessions, four participants did not remember being called in for a follow-up, nine did not attend, with only three participants who attended. Four participants did not remember if they were called in for a follow-up session, and stated the following:

"I don't know, I do not remember if they called me." (P4)

*"I do not recall seeing the audiologist again." (*P5)

Five participants did not find the need to attend or were unable to attend the follow-up sessions and stated:

"They called me to come in for a follow-up, but I could not get there, I did not have a lift at that time." (P2)

"The booklet given to me at the clinic helps me, so I did not need to attend." (P14)

However, those participants who had attended a follow-up session were satisfied and reported how it impacted them positively when using their hearing aids:

"Yes, I think it is important to attend because sometimes you forget and, in the follow-up, you realise I didn't do this or thanks for reminding me. It is good to go for a follow-up." (P4)

"The follow-up was useful for me." (P10)

"The clinic I attended, the audiologist was very helpful both times and gave me a very good explanation, she showed me everything." (P13)

Lastly, participant 15 had only been fitted with hearing aids recently and has not yet attended a follow-up session.

Discussion of Sub-Aim 3: The perceived impact of follow-up fitting sessions

The hearing aid fitting session is one of the most fundamental aspects of the commencement of hearing aid use for a hearing aid user. This is the initial consultation in which a hearing aid user is provided with their hearing aids and are given a detailed explanation on how to use it (Bennett et al., 2021). Due to information overload during the fitting session, hearing aid users are expected to familiarise themselves with the hearing aid/s and trial them, thereafter they should be called in for a follow-up session to recap information on how to use the hearing aid as well as address any of their questions (Dawes et al., 2014). In this study, many participants did not attend a follow-up session post hearing aid fitting, with a few participants who did attend finding it beneficial. A follow-up session is fundamental to the hearing aid process, as hearing aid users can receive support in the form of counselling relating to hearing aid care and use, listening strategies, and how to problem-solve when needed.

The findings from the current study of participants who attended the follow-up sessions were positive reviews with participants mentioning the benefit of having an opportunity to recap information regarding how to use the hearing aid as well as ask for clarity for any questions. This finding supports the findings from a study by Vuorialho et al. (2006) who also identified

that follow-up counselling on hearing aid use can significantly increase the benefit obtained from a hearing aid. From the findings of the current study of participants who reported to not remember being called in for a follow-up or did not attend the follow-up due to the reasons mentioned above, it is an important concern to note for audiologists to think of alternatives such as continuous follow up reminders for the geriatric population. Due to their age and health reasons, attending appointments present as a challenge, hence the initial hearing aid fitting session ought to be adapted for the geriatric population. Dementia is underdiagnosed by clinicians and underreported by patients and families despite their high prevalence and important implications for patients and families (Amjad et al., 2018). The geriatric population is often unaware of their poor memory as they have early onset of memory issues before they are formally diagnosed or have undiagnosed dementia, hence influencing their forgetfulness related to appointments or ability to use the hearing aid. The following strategies may help at the hearing aid fitting to address this situation such as using simple language, limiting the amount of information presented and reiterating the most important points, providing written materials for the user to take home, and mainly on-going support in the form of an in-person clinical drop-in service or via tele-audiology and support groups for new users (Laplante-Lévesque et al., 2013; Munro, 2008). One participant in the current study reported referring to the hearing aid booklet provided by the audiologist to reiterate information shared during the hearing aid fitting appointment. In-person clinical drop-in service and having support groups for new users or a phone call with a new hearing aid user within the first few days following fitting is an important factor to consider as a possible follow-up service for the geriatric population, particularly in the South African context. Goggins and Day (2009) have recommended that a one-year follow-up appointment after hearing aid fitting is also appropriate to cover rehabilitation issues and improve hearing aid usage rates.

Chapter 5: Conclusion

Summary of findings

The above-mentioned findings indicate that aspects such as sound quality, practical use and psychosocial factors influence getting used to hearing aids in the geriatric population. From the current study, it was identified that getting used to hearing aids is a multifactorial process, which requires dedication, time, and effort for both the hearing aid user and the audiologist. Initially, it was reported by clients in this study that they had to learn to get used to the factors which influenced them when wearing their hearing aids. On the contrary however, within a few months of consistent usage of the hearing aids, they successfully adapted and are dependent on their hearing aids daily. Successfully adapting to the hearing aid through consistent usage is dependent on how often the hearing aid user wears it and their ability to handle the hearing aid in terms of manipulation and maintenance.

The key aspect to highlight from this study, is the positive findings of factors influencing getting used to hearing aids specifically from the geriatric population. All factors such as feedback/echo, clarity of sound, specific listening situations, hearing aid comfort and acceptance of hearing loss were managed by most of geriatric hearing aid users in this study, as they wore their aids consistently. The only factor to which the geriatric hearing aid users struggled to adapt was practical use of the hearing aid due to limitations in their manual dexterity. Supportive caregivers, family and friends were reportedly helpful in this aspect.

When exploring factors which encouraged and discouraged participants from using hearing aids, the majority participants reported to be satisfied with their hearing aids. They experienced the benefits received from their hearing aids and it is now part of their daily life. However, participants reported that certain situations and listening environments occasionally discouraged them from using their hearing aids as they found the sound from the hearing aid to be too loud or they did not receive optimal benefit. Participants were discouraged from using their hearing aids in situations in which they felt they did not receive benefit or in environments with loud background noise/social gatherings.

The current study validates established knowledge of hearing aid use, confirming the importance of these processes to hearing aid users. Participants recommended the provision

of specific information related to getting used to wearing hearing aids would be beneficial, as this would make new users persist with what can be a challenging experience. By doing this, the audiologist is seen as playing a vital role in auditory rehabilitation by providing such support and having close input to address the factors described above to get used to wearing hearing aids. Hence, post hearing aid fitting, subsequent follow-up appointments were considered fundamental to using hearing aids for participants to assimilate to the large amount of information imparted by the audiologist at the time of fitting. In this study, participants who attended follow-up appointments found it useful, with half of the participants not attending follow-up's or remembering being called in. The finding of participants not attending or remembering being called for a follow-up relates to the age of the geriatric hearing aid users, particularly in the South African context. This aspect suggests the need for new and innovative methods by audiologists (as discussed above) for alternative follow-up and support for the geriatric population. The current study determined the requirements of the South African geriatric population who have hearing loss and identified any issues which may impact the utilisation and maintenance of hearing aids.

Consequently, the current study has critically identified factors that influence getting used to hearing aids in the geriatric population. It has also identified the effectiveness of follow-up sessions post hearing aid fitting and determined ways to bridge the gap between the information and counselling provided by the audiologist to improve hearing aid fittings. Through these findings, audiologists can explore alternative and effective means to deliver rehabilitation to maximise hearing aid benefit and support users in the process of getting used to hearing aids. Both private and public sectors in South Africa may implement effective rehabilitation services and consistent follow-ups to ensure individuals are familiar with their hearing aids, understand how to use it and consistently use their aids. Lastly, the quality of life of the geriatric population can be improved through consistent hearing aid use. Therefore, this study highlighted the need for studies in South Africa to place emphasis on hearing aid use by the geriatric population as hearing loss is growing rapidly within their population.

Strengths of the current study

There are various strengths to this study, which has critically identified factors which influence getting used to hearing aids in the geriatric population. The study provides a large

contribution to the field as it has identified the effectiveness of follow-up sessions post hearing aid fitting and determined ways to bridge the gap between the information and counselling provided by the audiologist to improve hearing aid fittings. Through these findings, audiologists can explore alternative and effective means to deliver rehabilitation to maximise hearing aid benefit and support users in the process of getting used to hearing aids. Lastly, the quality of life of the geriatric population can be improved through consistent hearing aid use as their needs of attention to certain factors of hearing aid use has been identified. Despite the few focus groups as a sample size in this study due to limited participants with hearing aids at old age homes, a thorough and in-depth understanding of getting used to hearing aids by the geriatric population was explored.

Limitations of the current study

While this study has produced valuable insights on the geriatric population getting used to hearing aids and being satisfied with them, there are limitations to the study that need to be taken into consideration. The primary limitation of this study is the focus on presbycusis only, excluding other types of hearing loss. Additionally, the sample size of three focus groups was a limitation to this study. Furthermore, the results obtained in this study cannot be generalised to other clients or to hearing aid users outside of this study. The participants in this study all reside at an old age/care home and are surrounded by only elderly people. Therefore, the study excludes the elderly population with hearing aids who reside alone or with family members of various ages. The participants in this study were sourced from old age/care homes in Gauteng only, excluding participants from other provinces. Lastly, themes identified by these participants may not be transferrable to other populations, although the facts that they are generally in line with those identified previously in audiological literature implores that they are.

Recommendations for future research

Following the outcomes and contributions of this study, it is recommended that this study be extended to all geriatric hearing aid users from all provinces in South Africa. Information obtained may provide greater and more valuable information to improving the elderly population in getting used to wearing hearing aids. It is also recommended that audiologists

explore and identify alternatives to follow-up hearing aid sessions as well as ensure increased attendance post hearing aid fitting sessions. Audiologists need to explore ways to provide effective means of delivering hearing rehabilitation services which supports users through the process of getting used to hearing aids and maximise hearing aid benefit.

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Appendices

APPENDIX 1: Signed Declaration Template

Surname: LOONAT
First name/s: TAYYIBA
Student no.: 1900832
Supervisor: DR DHANASHREE PILLAY
Student email: 1900832@students.wits.ac.za
Supervisor email: Dhanashree.pillay@wits.ac.za

Title: **Getting used to hearing aids: The geriatric users' perspective in Gauteng, South Africa**

Total Word Count: ____8132__ (excl. Reference List, appendices etc.)

Declaration:
I, _____**TAYYIBA LOONAT**_____ know and accept that plagiarism (i.e., to use another's work and to
pretend that it is one's own) is wrong. Consequently, I declare that,

- The research proposal is my own work.
- I understand what plagiarism is, and the importance of clearly and appropriately acknowledging my sources.
- I understand that questions about plagiarism can arise in any piece of work I submit, regardless of whether that work is to be formally assessed or not.
- I understand that a proper paraphrase or summary of ideas/ content from a particular source should be written in my own words with my own sentence structure and be accompanied by an appropriate reference.
- I have correctly acknowledged all direct quotations and paraphrased ideas/ content by way of appropriate, APA-style in-text references.
- I have provided a complete, alphabetized reference list, as required by the APA method of referencing.
- I understand that anti-plagiarism software (e.g. Turnitin) is a useful resource, but that such software does not provide definitive proof that a document is free of plagiarism.
- I have not allowed, and will not allow, anyone to copy my work with the intention of passing it off as his or her own work.
- I am aware of and familiar with the University of the Witwatersrand's policy on plagiarism.
- I understand that the University of the Witwatersrand may take disciplinary action against me if there is a belief that this is not my own unaided work, or that I failed to acknowledge the source of the ideas or words in my writing.
- The word count (excluding the Reference List, etc.) given above is correct.

Signed: __**T,LOONAT**_____ _____

- **Date: 5/08/2024**

APPENDIX 2: Ethical Clearance Certificate

UNIVERSITY OF THE WITWATERSRAND JOHANNESBURG

Research Office

HUMAN RESEARCH ETHICS COMMITTEE (NON-MEDICAL)
R14/49 Loonat

CLEARANCE CERTIFICATE	**PROTOCOL NUMBER: H24/09/18**
PROJECT TITLE	Getting used to hearing aids: The geriatric users' perspective in Gauteng, South Africa
INVESTIGATOR(S)	Ms T Loonat
SCHOOL/DEPARTMENT	Human and Community Development/
DATE CONSIDERED	20 September 2024
DECISION OF THE COMMITTEE	Approved Risk Level: Minimal
EXPIRY DATE	18 November 2027

DATE 19 November 2024 **CHAIRPERSON** _____
(Professor J Watermeyer)

cc: Supervisor : Dr D Pillay

DECLARATION OF INVESTIGATOR(S)

To be completed in duplicate and **A SIGNED COPY** returned to the Secretary electronically. Unreported changes to the application may invalidate the clearance given by the HREC (Non-Medical)

I/We fully understand the conditions under which I am/we are authorized to carry out the abovementioned research and I/we guarantee to ensure compliance with these conditions. Should any departure be contemplated from the research procedure as approved I/we undertake to submit an amendment of the protocol to the Committee. **I/we agree to completion of a regular progress report. For Minimal and Low Risk studies, this is due annually on 31 December. For Medium and High Risk studies, this is due twice annually on 30 June and 31 December.**

_____ 19 / 11 / 2024
Signature **Date**

PLEASE QUOTE THE PROTOCOL NUMBER ON ALL ENQUIRIES

APPENDIX 3: Participant Request Form

UNIVERSITY OF THE WITWATERSRAND, JOHANNESBURG

SCHOOL OF HUMAN AND COMMUNITY DEVELOPMENT
SPEECH PATHOLOGY AND AUDIOLOGY

PARTICIPANT REQUEST FORM

To whom it may concern,

My name is Tayyiba Loonat, and I am a master's student in the Audiology department at the University of the Witwatersrand, Johannesburg. The title of my dissertation is: Getting used to hearing aids: What is the geriatric users' perspective in Gauteng, South Africa? The aim of this dissertation is to determine factors influencing and experiences of getting used to hearing aids from the perspective of geriatric hearing aid users.

As part of research for my dissertation, I would like to invite residents at your home who are hearing aid users to participate in my study. A focus group interview will be held on one day only with the residents at your premises, if permitted. The focus group discussion will take approximately 3 hours including a break. Residents who are hearing aid users will sit together and will take part in few activities and exercises to facilitate discussion centred on my research topic. Residents will receive a benefit by being provided with a short training course on how to use their hearing aids included in the discussion. Resident's names will remain anonymous and will be referred to in the study as a random number.

Thank you for considering your residents for participation in this research project.

If permission is granted, you may contact me or my research supervisor via email for any concerns or queries.

Yours sincerely, Tayyiba Loonat

Contact Tayyiba Loonat (researcher) via email tayyibaloonat@gmail.com or
Contact Prof. Dhanashree Pillay (Supervisor) via email Dhanashree.pillay@wits.ac.za

APPENDIX 4: Participant Information Sheet

PARTICIPANT INFORMATION SHEET

UNIVERSITY OF THE WITWATERSRAND, JOHANNESBURG

SCHOOL OF HUMAN AND COMMUNITY DEVELOPMENT
SPEECH PATHOLOGY AND AUDIOLOGY

Participant Information Sheet (PIS)

Dear Sir/Madam,

My name is Tayyiba Loonat and I am a Masters student in Audiology at the University of the Witwatersrand, Johannesburg. My supervisor is Dr Dhanashree Pillay. I am conducting a research study about factors influencing getting used to hearing aids from the perspective of geriatric hearing aid users. The study title is: Getting used to hearing aids: What is the geriatric users' perspective in Gauteng, South Africa?.
I am inviting you to answer a questionnaire and thereafter take part in a focus group discussion. If you decide to take part, your participation in this research study will last about one hour. The questionnaire will take place first and then the focus group discussion and both activities will be held at your place of residence at the old age home after lunch.

With your permission, I would like to audio record the focus group discussion. If you would not like to be audio recorded, unfortunately you will not be able to participate in the focus group. This data will be stored on a password protected laptop. Only the researcher and my supervisor will have access to the data.

Your participation in this focus group during data collection cannot be anonymous or confidential, but that anonymity and confidentiality can be guaranteed when the researcher is reporting the data. When I share the results of the research study, I will not include your name or anything else that could identify you. With your permission, other researchers may use the data collected from this research study, but your name and any personal information will not be used or passed on.

If you decide to take part in the research study, it should be because you want to volunteer. You do not have to take part. You can stop being in the study at any time. You do not have to answer any questions if you do not want to. You will not get any direct benefits if you choose to join the research study. You will not lose any services, benefits or rights you would normally have if you decide not to join. Taking part in the research study will not cost you anything. You will not be paid for being in this research study.

The risks for this research study are no more than what happens in everyday life. If you feel any distress at the questions asked, I will stop the focus group discussion and you may withdraw your participation.

This research study will be written up as a research report and/or as a publication. The report will be available on the university library website. If you would like to receive a summary of this report, I will be happy to send it to you.

If you have any questions during or afterwards about this research study, feel free to contact me or my supervisor on the details listed below. If you have any concerns or complaints about the ethical procedures of this research study, you are welcome to contact the University Human Research Ethics Committee (Non-Medical), telephone +27(0) 11 717 1408, email hrecnon-medical@wits.ac.za.

Yours sincerely,
Tayyiba

Researcher:
Tayyiba Loonat, 1900832@students.wits.ac.za, 0694201840
Supervisor:
Prof. Dhanashree Pillay, Dhanashree.pillay@wits.ac.za, 011 717 4564

APPENDIX 5: Participant Consent Form



PARTICIPANT CONSENT FORM

Title: Getting used to hearing aids: What is the geriatric users' perspective in Gauteng, South Africa?
Name of Researcher: Tayyiba Loonat

I, _____ agree to participate in this research project by joining a focus group. The research has been explained to me and I understand what my participation will entail.

I agree to the following:

(Please circle the relevant options below)

The research study was explained to me. I understand what this study is about	YESNO	
I understand that I can volunteer to take part in the study	YESNO	
I agree that the focus group may be audio recorded	YES	NO
I agree that direct quotations from my focus group may be used by the researcher in their research report	YESNO	
I acknowledge that my participation in this focus group during data collection cannot be anonymous or confidential, but that anonymity and confidentiality can be guaranteed when the researcher is reporting the data.	YESNO	
I agree that other researchers may use the information I provide in my focus group (depending on their own ethics clearance being obtained) but my name and any personal information will not be used or passed on	YESNO	

…… (signature)
…… (Name of participant)
…… (date)

…… (signature)
……Tayyiba Loonat…… (Name of researcher seeking consent)
…… (date)

APPENDIX 6 – Topic Guide and Exercises

Topic guide questions to facilitate focus group discussion:

Questions to explore the factors influencing getting used to wearing hearing aids

1. Describe all the factors that influenced you into getting used to wearing your hearing aids
2. Based on participant responses, targeted prompts will be asked by the researcher to ensure all relevant topics are covered and to guide clients to think about aspects, e.g.:
   (a) Did the comfort or fit of the hearing aids play a role?
   (b) What about the sound quality- did that influence your adjustment period?
   (c) Any situations in which you found your hearing aids to be most useful?
   (d) Any situations in which you felt your hearing aids to not be providing enough benefit?
   (e) Did you experience any struggles with hearing aid care and maintenance?

Questions to explore the factors encouraging and discouraging wearing hearing aids

3. After getting used to wearing the hearing aids, what encouraged and discouraged your use of the aids?

Questions to determine the perceived impact of follow-up fitting sessions

4. If you think back to the follow-up sessions after you were fitted with hearing aids, can you describe the impact of those session for you personally?

APPDENDIX 7 – Demographic Questionnaire

Instructions: Thank you for taking your time to answer these questions. Please fill in or circle the appropriate box.

1. ***HA- refers to hearing aid***

Age	
Gender	Male Female Other
Unilateral or Bilateral hearing aids worn	Unilateral Bilateral
When was the HA acquired	
Where was the HA acquired	Privately funded Publicly funded
Type and brand of HA	
Self-reported HA use	Daily Not daily- occasionally
Self-rated hearing difficulty without hearing aids (on a scale of 1-5 where 1 = no difficulty, 5 = very large difficulty)	
HA satisfaction (on a scale of 1-5 where 1 = very dissatisfied, 5 = very satisfied)	
Occupation status	
Living arrangement	Alone With other(s)

APPENDIX 8- Audio-Recording Consent Form



Participant Audio- Recording Consent Form

Getting used to hearing aids: What is the geriatric users' perspective in Gauteng, South Africa?
By: Tayyiba Loonat

I _____ hereby grant permission to the researcher to audio record the focus group discussion and training using a digital recorder.

Date: _____

Signed: _____

Researcher: **T.Loonat**

APPENDIX 9: Questionnaire Summary/Tally

AGE	75	**86**	**84**	**83**	**78**	**82**	**83**	**73**	**89**	**80(NEW)**
GENDER	M	F	**F**	**F**	**M**	**M**	**F**	**F**	**M**	**F**
UNILATERAL/ BILATERAL HA	BIL	**B**	**UNI**	**BI**	**BI**	**UNI**	**BI**	**B**	**B**	**BI**
When was the HA acquired?	YEARS AGO	**1 WEEK**	**2 YEARS**	**5 YEARS**	**10 YEARS**	**FEW YEAES**	**YEARS AGO**	**3 YE**	**YEARS AGO**	**1 Y**
Where was the HA acquired	PUBLIC	**PUBLIC**	**PUBLIC**	**PUBLIC**	**PRIVATE**	**PUBLIC**	**PUBLIC**	**PRIVATE**	**PUBLIC**	**PUBLIC**
Type and brand of HA	BTE	**BTE**	**BTE**	**BTE**	**BTE**	**BTE**	**BTE**	**RIC**	**RIC**	**BTE**
Self-reported use	DAILY	**DAILY**	**DAILY**	**NOT DAILY**	**DAILY**	**NOT DAILY**	**DAILY**	**DAILY**	**DAILY**	**DAILY**
Self-rated difficulty without HA	5	**3**	**5**	**5**	**5**	**5**	**4**	**3**	**5**	**4**
HA Satisfaction	5	**5**	**5**	**5**	**5**	**3**	**5**	**4**	**4**	**4**
Occupation status	RETIRED	**RETIRED**	**RETIRED**	**RETIRED**	**RETIRED**	**RETIRED**	**RETIRED**	**NURSING SISTER**	**RETIRED**	**RETIRED**
Living arrangement	ALONE	**ALONE**	**ALONE**	**ALONE**	**ALONE**	**WITH OTHERS**	**WITH OTHERS**	**WITH OTHERS**	**WITH OTHERS**	**ALONE**

AGE	**80**	**82**	**85**	**82**	**80**	**69**	
GENDER	**F**	**M**	**F**	**F**	**M**	**F**	
UNILATERAL/ BILATERAL HA	**BI**	**BI**	**BI**	**BI**	**BI**	**BI**	
When was the HA acquired?	**5 YEARS**	**1 YEAER**	**1 YEAR**	**1 YEAR**	**3 MONTHS**	**4 YEARS**	
Where was the HA acquired	**PUBLIC**	**PRIVATE**	**PUBLIC**	**PRIVATE**	**PUBLIC**	**PRIVATE**	
Type and brand of HA	**BTE**	**BTE**	**BTE**	**RIC**	**RIC**	**BTE**	

Self-reported use	DAILY	DAILY	DAILY	DAILY	DAILY	DAILY	
Self-rated difficulty without HA	5	2	5	3	3	4	
HA Satisfaction	5	2	5	5	5	5	
Occupation status	HAIRDRESSER	RETIRED	TEACHER	SECRATRY	RETIRED	TEACHER	
Living arrangement	WITH OTHERS	WITH OTHERS	WITH OTHERS	WITH OTHERS	ALONE	WITH OTHERS	

APPENDIX 10: Transcription of Data

SANDRINGHAM

For the water, yes. Second for the water, you need it. Yeah, yes. OK. So good day everyone today. OK, I just want to. Again, my name Tayyiba Loonat and I'm a student at First University. I'm currently doing my masters at Wits and why called you all today is to participate in my study. That's right. That's right. That's we can fill in afterwards that we'll do it later. This one. Yes. And just leave it for now. OK, Thank you. So today what we're going to be doing is I just want to find out that Mr. Theologist, so I relate to all your experiences with hearing aids. I do understand the difficulty that you all do. Experience. OK. Thankfully, most of you are receiving benefit with the hearing aid, but there are times when you still struggle to hear. Am I correct? Yes. OK, so what we're going to do today is we're going to have an open discussion. So, everyone is more than welcome to share their thoughts. Shared experiences, it's allowed everyone to have a chance. Like I said, only the ones in this room know what we are discussing. Besides this room, everything is confidential. Even in my research study, your name will not be mentioned. OK, so please feel free to have an open discussion with us. Thank you. I'll pose the question. And you're more than welcome to share your thoughts, OK? Feed triple be honest if you're having difficulty with the other guy. This is also attached to shape. OK, Let's see. We can see what we are how can improve our other elderly, how we can make hearing aids better for them, their experiences. And we can see how we can assist you as well, OK? Oh please. Now everyone to have their own discussion and now everyone to take a chance to speak, OK? we'll take a chance if you have something to say, OK?

The first thing that I want to find out from all of you here today is can you describe any factors that influenced you in getting used to wearing the hearing aids. So maybe like the comfort of the yarding aid player role? Did you think you arrived to adjust the sound quality? I know at first when you put the yard in it, it's very loud for you. But after a while did it adjust or are you still struggling? Sometimes they say your voice is also allowed like an echo. OK. Let's think about that first and then we can go on. When I first got it, there was an P1-echo but not anymore dance. OK, anything else from everyone what influenced you in getting used to me and I'm not using your hearing aid? Because I'm watching it now, The P2-thing that I knew what I needed to do something music. - I hear a funny noise from the hearing aid- I hear a sound but then it goes away" – researcher said it's when battery is dying OK amused is enough. When the battery is dying is another tune tone PPP things. Usually, it shows you there's a new battery. I think they are doing it is fresh. Crime and he's able to eat funny noise. A funny noise. That's usually when the unit is switching on your PC when the battery is dying. It also indicates or when you're increasing or decreasing the volume you touch it. OK. And this is enough. OK, but it's good. If you need to increase it, you can make it. - participant reported to never adjust volume – don't know how. Now the app and software down somewhere we didn't know that somewhere. So did you OK, so when you got when you got your hearing aid in the where you went to get it, they didn't explain that to you like briefly, OK. Understand what you're saying. Some of the people I can't understand what they are saying- they talk too soft. and I can't hear what they are saying. Relying on nothing reading, reading the lips. Ok I don't rely on lip reading, didn't want to wear a hearing aid because I am very pleased to hear hearing aids and the mouth. I was even drafted in once and then somehow, they then prescribed them together. At first, I didn't want hearing aids but now and that's the best thing that could have ever happened. My hearing is better in the

community. - better than what it was. Sometimes I get/feel wax on it Yes, Joan helps to clean it it's showing you. He says he gets it, gets it and once it's in anything, sometimes giving their team in the lounge. Noise like a feedback sound and especially when my watch is near, it picks up the sound- gives feedback for 2-3 mins- did it take long to adjust to the hearing aid? Not really- it was quite an easy process. Comfort0- is it comfortable for all of you? OK. So that's good. Sometimes I even fall asleep not realizing its still inside- comfort Oh wow, you even forget to take it out but remember you must take it out again. Thank you. Listen, you have an Angel here, OK, That's good. Keeping the stations for you. Thank you, that's very good to y'all. Yeah, that is very good. One participant reported- sometimes the television is too soft even while wearing my hearing aid- do you know how to make vol louder- due to dexterity issues its very difficult to – because my fingers can't really move- Joan helps Then we have Bluetooth and then. Now I think this one probably could he couldn't go back. He also something from for the for the age. It's not practical Julain? Not just in turn helps me. OK, so I'm doing OK. And did you adjust well to the yachting aid? Right. Did you adjust? But once you got it, yeah, why were you comfortable with the sound or that was, OK? Ohk. OK, that's good. And she does it very well, very good. And for the age that's very good, you know, and they're all of them. And one of them wearing it from day one and not stop. Julian reported to be satisfied and adjusted well. This one. Take it out, OK, but you do have a good you're all for you guys because they're so comfortable with the you're thinking you're putting in the morning trying to win their skin. OK, that's very good. That's all. And don't forget my hearing aids. You left. It's like a part of you. I put the hearing aids from the morning and sometimes if I forget, I feel like something is missing. I need it otherwise I cannot hear anybody. Especially in an emergency, you need guarding aids. Yeah, OK. It's very important. I don't know what it is to take. If the battery is dying. This one, and this takes a little cheaper, OK, tells me there's obviously the difference between yes, yes, but this one doesn't do anything. He doesn't even. And less than two years of centralized so the audiologist when they settle, they synchronize the hearing., you must change the other one or you can just test it when you squeeze the yawning at basically in your hand, you yard that easy. So, we're not. OK and then when i go to bed tonight OK so if there's no sound from the one you know the batteries probably flat yeah OK you got it- participants queried on being confused and unsure when the battery is flat. Sorry, I'm here. Because you're yawning is probably better in the one year compared to the other. Starting sometime is not the same. One year could be worse than another year. And I'm like, yeah, there's like one hearing aid. Is that higher compared to another hearing aid? Please keep watching this. You're not going to see yes. You just must be very careful with it.

<u>OK, are there any situations in which you find your hearing aids the most useful for you?</u>

Not just happy with it, we are just mostly our daily life. OK that's good. Sometimes I don't hear everything, but I hear most things everything but much? I sometimes can't always hear the phone. I don't know. Cousin doesn't talk here, which comes from Scotland, and I've never heard clearly on the phone and I'm always asking. "Sorry, what did you say" when you say what is something that you really want? Researcher recommended to put It on loudspeaker but pt is old and has an outdated phone – many of the participants have old phones so no option for speaker. It's just like, oh, oh, man, OK. Yeah, I think it's a loudspeaker. Dance together. It's crazy. Changes in and supporting improvement? No problem. Further improvement. See there's this other policy. I think they're better than songs yeah sometimes the more updated like your phone is a bit older and older, so the sound quality is also not is the latest phone that they make it a bit louder for elderly even though settings you know parading you can increase the volumes the text size or. The best in the older phones, unfortunately. OK and other anyone else. Which situations do you find that you need the

most useful? Maybe during useful when you when is it the best? Put information there OK if they have the matter. “When the TV is on – that’s when my hearing aids are the. Most useful., when I put my hearing aids on that’s when I can hear every word they say.”- another participant- “when I’m socializing with others, example with my sister’. Another participants- “when I’m communicating, when I talk to people in a group, it’s better than what it was” . another participant- I can’t really say because I still find it soft- not really finding a difference with it on. – struggling a bit. Another participant- “well it feels better now that I can communicate, communicate better, however when there is background noise, I struggle a bit.

are there any situations in which you find your hearing aids the most useful for you?

One participant- I struggle in background noise when other people are talking or a loud/noisy environment.

Participant 2- I still struggle when watching TV

Participant 3- I had a friend who I had to ask to speak louder, and I was struggling because she was not looking at me, she’s standing somewhere else, I can’t even hear her, she must face me as I don’t even know she’s talking to me.

Some really struggle in background noise, example when there’s loud music or in the dining room

Participant 4- For me, it is the most useful thing. I can’t say it’s not useful, its best from the time I put it on.

And that's when it started. Yeah, yeah. I am struggling here. Yes, no. And it's far. You need glasses, so you also need your ring. It's just something unfortunately, you know, something might be coming this way and it's probably what this would be. This is one of the things that Mister Clark said, think that if everybody did it, he came back straight away and saying those people who come and then you also must have been really lost for me since you're 13 years old. Yes. And then it's been hard to fit because they are they are that they are yawning. Did the new sales and that you'll get this. This time for these ladies’ lunch, it was better because. OK. – identify they need a hearing aid very late – most in denial only 2 noticed- one his daughter noticed he needs one

And any you know that in terms of putting the battery? In cleaning the hearing aid in aid, - maintenance

That's good, you can't change changing battery. Yeah, yeah. OK, also get within my ears and then I've got it OK, but changing a battery basically increases no problem and otherwise. Yes, yes, yes.

- P4- Only one participant changes himself – others rely on the audiologist- the one who does report its quite easy, he follows the manual/book that the audiologist gave him to follow instructions. An di use the cloth to give it a wipe and I use the capsule- “its quick, its easy”. Another participant also reported she goes to Joan, and one participant asks his friend to please do it for me –
- P2- If I don’t manage, I go to Joan, I do manage to put it myself, when I’m watching tb I can hear. A big difference.
- Volume button- anyone users it. Participants reported (3) – “never touched it”
- P4 “I increase sometimes, when I’m hearing very soft, then I do increase it”.
- Elderly struggle due to dexterity and they don’t have remotes to adjusts. Another participant P5- “I don’t touch mine”

Once used to the hearing aid, what encouraged and discouraged your use of HA

- ALL encouragements, I want to use my hearing aids,
- What discouraged you- Mr. Goldberg doesn't find a difference with It on so for him he doesn't really find the need to always put it on.
- No discouragements

Follow- ups – did they call you back

- P4-One participant – yes, "I think that it's important to attend because sometimes you forget and in the follow up you realize I didn't do this or thanks for reminding me it is good to go for a follow up. "
- P 3- NO
- P2- They did call her, but I couldn't get there- difficult to get her there
- P4- I DON'T KNOW. Remember if they called me
- P6- I did go for a follow up
- P5- Not that I recall.

If you do have any questions, it's important to contact, but you're here so and so, so, yeah, but this is important. It's important to follow up because like I said, increase changing a battery of the day when I explained to you, you don't remember all that information. So sometimes it's best when you go afterwards, and you can ask the question. So maybe sometimes for up to six months is also useful. You know, once you've been using the hearing aid for a while and now you have all these questions, you know, So I think it's important that audiologists call you back for a follow up after maybe six months or even a year just to ask you how you been doing, how you satisfied with your reading. OK, but remember you are also more. And welcome to always call back, although you'll have Joan. And if you ever need to inquire, sometimes they like to. They don't say exactly. Yeah, yeah. Drive most of these. All these people you know. Hearing aids. Yeah, yeah. On the table. The table, they don't. Building me up like it down. We don't, we don't give them. Yeah, no. I mean, sometimes people think they get, they get from here because they were the only just come here. They get, you know they don't, they don't. This privately owned community OK and the hospitals do offer the services. So, you must make use of the hospital services as well. And remember that you're aids to deteriorate, they get weaker. So, after five years, if you've seen your hearing aid is not benefiting the way it was, sometimes you need a new hearing aid. OK. And if you are patient at the clinics, the clinics to upgrade you and they give you another hearing aid. OK. So usually after five years we do recommend you get a new hearing aid and usually just because the whole thing, the whole thing can go. But if you still satisfied then it's working. Well, if we do say if after five years, you're finding you know by hearing it is not working. Well, anymore. Or maybe you're yawning even changed. OK, sometimes you're yawning itself can change, they just need to adjust it on the yawning and make the yawning accepting programming louder in scheduling. Seriously. Yes. So, hearing it becomes weaker after Father's monster drink, if you find that you're doing it, is not working as well. You can go to the clinic and explain, they'll do a yearning for you. If they see your urine change, they might adjust the settings on the urinate or they'll say you know what, this is the only alright, let's

give you OK, OK, so it's good to always check, remember? It's not a nice long thing so if you have it then after a few years you're finding it's not benefiting me anymore. Go and have a look at it. Nothing, just taking pictures and stuff. Says 30 and is the interference in the variance makes states would be lost longer. So usually, we tell patients that you like one that's in the hearing it lasts about minimum two weeks. OK, it's like you ask in other brands maybe have a. Life gives you longer life compared to another brain. Unfortunately, I think they're all programmed the same way. It always depends on how often you are using layering. OK so if you use it maybe more hours compared to someone else then that's it does go quicker. But compared in terms of brains we don't find that old phone. He is a longer life compared to Oticon. They all the same. OK, that is a very good question and here's the case. Whatever they order, order. So, you got to get this specific for you what yours. There's a natural hair growth. Theme music. Logan audiologist to set it for their loss and to get this a new receiver because take your sizes doesn't use at the backyard. They can tell you OK, it's got to stand. Do you need to leave? OK, we are done if you want to. I just have a few snacks but it's just a biscuit. Anyway.

PARKCARE

P7:

- OK, so Mr. Rahman. OK. Is it difficult for you to get what influence you in getting used to the hearing aid? Are you managing what you're hearing aids on? Is it easy to use the ha. Yes
- No, I don't change batteries myself, but I put it in my ears. I- he manages to put the new battery in, but nurse helps to clean it for him
- Hearing aid is comfortable
- Straight away I adjusted to the sound
- When is ha best for you- I can hear - very clear when I'm watching tv,
- When not useful- when lots of people talking, social gatherings
- He wants to use the hearing aids all the time.
- NO follow ups-
- The wax troubles him- users sweet oil

P8- I really struggle in background noise when lots of people talking.
P9- what helped you in using your hearing aid? "I got to get used to it, I lost one" when you had one, could you hear? He can't remember. Doesn't use it
P10/P11 what factors influenced you to get used to it? I just got used to it wasn't difficult. The only trouble is this one hurts my ear, it's a little bit uncomfortable but if I put it far enough its ok. However, other than that I can hear people talking well. I manage to clean and change the batteries myself. What encourages and discourages?" Nothing, I use it, if I don't use it, it's because I'm lazy, basically it's my routine though". Which situations is most useful- "when they talk about the menu items, I can hear or when I need to go buy something, I use it to the full" When is not useful? "When a lot of people talk together,

then I think it would be confusing". Where did you get it from- Hillbrow, I've been for the follow up, but waiting for right ear, follow up was useful,

LENASIA
P12:

- I hardly use my HA, "I don't know I got it but I don't put it on, very seldom I put it on" so far so good, my hearing. Is not that bad
- I hardly use it so batteries don't change – I'm so used to without it
- My hearing is not that bad- when was it useful-
- Lenasia clinic helped me

P13:

- It was easy to use when I got the hearing aid. "I just simply got used to it"
- I have a friend here who changes the battery for me. My friend cleans it and everything –
- My hearing aid is most useful- "when watching tv its very loud, then I must press it to make it softer. Then when I'm outside talking to someone, I make it louder again"
- Lenasia clinic- very well explanation, showed me everything
- Anything discourage you? Nothing discourages me- I put it on from after I wake up and bath, I use it the whole day
- Its comfortable –
- Can't remember how long I got it for

P14:

- I use my hearing aids every day, without it I can hear nothing"
- I put it on myself. Change batteries, clean etc,
- Comfortable to wear
- Sound quality- only thing is sometimes there's a feedback sound and indicates when the battery is flat
- When lot of noise, events, I cannot hear the individual people talking, music background
- "Only problem I have is with the batteries, it gets used up quickly"
- Encourages- helps me hear
- Discourages- nothing, "with this I can hear, but if I take it off, and you talk, I can't hear anything. I don't know if someone is even talking to me if I don't have it on.
- The booklet given to me at clinic helps me

P15:

- I can hear, but without it I can hear very faintly. Only got recently

- One of my friends come help me with it- to put it on, change batteries
- “All the time its useful, nothing discourages me from using it”
- Follow up – still must go as its recent

P16
-“the hearing aid is helping me 100%”
- 50 years with hearing aids
- helps me all the time,