Access to Healthcare for Individuals of a Low Socioeconomic Status with Hearing Loss: A Literature Review

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Question: What factors contribute to healthcare barriers faced by people of low socioeconomic status who have hearing loss?

Introduction

Socioeconomic status (SES) is defined as the social standing or class of an individual (American Psychological Association, 2022a). Income, education, and occupation play a role in determining this metric, which can reflect the quality-of-life attributes and opportunities given to individuals within society (American Psychological Association, 2022a). SES affects an individual's overall physical and mental health. Low SES often correlates with poverty and poor health, impacted by the existing inequalities of health distribution and quality of life across the United States (American Psychological Association, 2022b). Residents of low-SES communities are more likely to face challenges with mental illness, chronic disease, and lower life expectancy (Office of Disease Prevention and Health Promotion, 2024). Further, barriers to accessing healthcare and unmet social needs can lead to worse health outcomes for this population (Office of Disease Prevention and Health Promotion, 2024).

Low SES correlates with worse health outcomes among the population and acts as a general determinant for health. SES changes influence an individual's health status, where individuals with a high SES are at a lower risk of health challenges (Barakat & Konstantinidis, 2023). Those with low income often report the highest rates of poor health, which demonstrates a distinct correlation. Data from the National Health Interview Survey showed that rates of poor health decreased as income level and education level increased (Kim et al., 2023). Those from the lowest-SES groups are at 2.5 times the risk of repeat emergency department visits during a single-year period compared to those from higher-SES groups, and they are at 2.7 times the risk of experiencing a repeat hospitalization (Chen & Miller, 2013).

Additionally, people with low household incomes have higher incidence rates of chronic health conditions when compared to those with higher household incomes. There are 1.65 times the odds of cardiovascular disease in children who were economically insecure when compared to financially secure children (Barakat & Konstantinidis, 2023). Additionally, there is an increase in conditions such as cancer and diabetes among those at a low-SES status, in part due to the burden of tobacco on people with low SES and low income (Center for Disease Control, 2024). Studies have shown that current tobacco usage is most prevalent in adults who are uninsured (27.3%) or who are enrolled on Medicaid (28.6%) compared to those under private insurance (16.4%); smoking tobacco causes up 90% of lung cancer deaths in the United States (Center for Disease Control, 2024). SES increases lead to a decrease in the rates of hospitalizations and overall health challenges. Based on the data, high-SES populations are more likely to experience positive health outcomes and better mental health rates than their low-SES counterparts, denoting a health disparity between the populations (Barakat & Konstantinidis, 2023).

Additionally, low socioeconomic status is associated with living in harsh environments (Kraft & Kraft, 2021). Noise pollution is the second-largest environmental cause of health issues in the United States, contributing to nearly ten million cases of permanent hearing loss overall (Angelo, 2023). The environment plays an important role in health outcomes; it may cause individuals to lack physical access to quality food, safe housing, and education, which can further increase existing health disparities (American Psychological Association, 2010). These environments are more likely to increase levels of stress and inflammation, which impact individual nervous systems and the stress response system, eventually impacting psychological areas such as the immune and brain systems. (Kraft & Kraft, 2021). Individuals of a low SES are more likely to live and attend school in an environment with noise pollution. Students who

receive free or reduced lunches have a 59.3% rate of being exposed to noise pollution compared to the 51.7% of all students (Collins et al., 2019). Low socioeconomic status can indicate exposure to factors that negatively impact an individual's health and well-being.

This disparity is pronounced in cases of hearing loss. The World Health Organization defines hearing loss as the lack of ability to hear, as well as someone with average hearing (World Health Organization, 2024). An audiologist can measure the severity of hearing loss through the decibel system. 17% of Americans experience hearing loss during their lifetimes, leading to difficulty hearing speech or sounds in the environment (Harvard Stem Cell Institute, 2022; World Health Organization, 2024). Noise exposure is the most commonly cited reason for hearing loss, but other factors such as age and genetics play a role (Cleveland Clinic, 2023). Hearing loss happens gradually and can cause individuals to feel disconnected from their environment (World Health Organization, 2024).

According to the Epidemiology of Hearing Loss Study, participants with hearing loss had a lower quality of life than those with normal hearing (Blazer, 2016). Studies have shown that individuals in the low-SES population are at a higher risk of hearing loss overall (Quimby et al., 2023). For example, individuals with hearing loss are 17 percentage points more likely to be unemployed or underemployed, 10 percentage points more likely to report an income lower than $20,000 annually. They are 20 percentage points less likely to have completed a high school degree than their hearing peers (Emmett & Francis, 2015). In 2017, the employment rate of hearing individuals was 75.8%, and only 53.5% for deaf individuals; 77.4% of employed hearing individuals worked full-time compared to the 74.4% of employed deaf individuals (Garberoglio et al., 2019).

Additionally, individuals with hearing loss face many healthcare-related barriers. For example, communication challenges during hospital visits or medical appointments can prevent individuals from receiving care (Hearing Loss Association of America, 2023). The direct costs of diagnosis and the care associated with hearing loss can contribute to individuals not receiving the care they need (Boss, 2011).

Individuals with lower socioeconomic status are disproportionately affected by hearing loss. Among adults aged 18 and older who have trouble hearing, only 46% reported discussing ear problems with a health professional (Center for Disease Control, 2019). Only 7% of individuals with a lower socioeconomic status who reported hearing issues visited an audiologist compared to 14% of individuals with higher socioeconomic status, implying a lower healthcare utilization rate (Willink et al., 2020). Individuals of a low-SES had 0.26 the odds of being cochlear implant candidates compared to their high-SES peers (Quimby et al., 2023). While studies have explored the potential relationship between socioeconomic status and hearing loss, few studies have investigated the impact of socioeconomic status on poor access to care among individuals who experience hearing loss. This literature review aims to examine factors that cause worse access to care for people of low socioeconomic status who experience hearing loss.

Methods

A comprehensive search was performed through the PubMed database, the SpringerLink database, the Medline database, and the University of Georgia library database to find peer-reviewed articles focused on hearing loss and socioeconomic status. PubMed is a database focused on literature surrounding science, especially biomedical sciences, and indexes over 38 million articles. SpringerLink has access to journals covering biological sciences, humanities, and health sciences, making it another valid option for article research. Medline provides a

database of articles on health and medicine, including health disparities and hearing loss. The University of Georgia article database offers a wide variety of information, including public health and medical issues.

Inclusion/Exclusion Criteria

The inclusion criteria required articles to be published within the past ten years and in English. Furthermore, articles needed to be set within the United States. The research focused on healthcare in people with hearing loss; therefore, articles included in this study discussed health disparities and hearing loss. In all of the searches made, terms such as "hearing loss OR deaf*" were included so that the articles produced were focused on hearing loss. Additionally, terms such as "socioeconomic* and low-SES" were included in searches, because the primary question surrounded how low socioeconomic status played a role in healthcare access for individuals with hearing loss.

Articles were excluded if they did not meet the general criteria listed above. Literature review articles were excluded, as this paper is focused on using scientific literature to examine the topic. Studies published before 2015 were excluded. However, studies focused on a specific age demographic (children, the elderly, etc.) were not excluded.

When searching through each database, each article available was examined. The title and abstract were reviewed, and any article that immediately failed to meet the inclusion or exclusion criteria was removed from consideration. Once this information was reviewed, an article was read for content. Once the content was checked and the relevant information was present, it was chosen as a valid paper.

Database One: PubMed

The first search was done through the PubMed database. The initial search term used was: (hearing loss OR deaf*) AND (health*) AND (socioeconomic* OR income), which resulted in 1178 articles. Then, the studies were filtered with the following: published within the last ten years, free full text, full text, clinical study, clinical trial, clinical trial protocol, clinical trial (all phases), comparative study, controlled clinical trial, dataset, observational study, and randomized control trial. 39 articles were provided. The search terms were then changed to: (hearing loss OR deaf*) AND (health*) AND (socioeconomic* OR income OR income level), resulting in 47 articles. Two valid articles were pulled from this search.

A second search was done, with the search changed to: (hearing loss OR deaf*) AND (health*) AND (socioeconomic* OR income OR income level) AND (US OR US-based OR United States* OR America*). 14 articles were produced, and three valid articles were pulled from this search.

A third search was done. The filters were cleared and replaced to include only articles from the last 10 years and articles with the full text available online. The search term was changed to (socioeconomic OR low-SES) AND (hearing loss OR deaf*) AND (United States). In total, 167 articles were found. Five valid articles were pulled from this search.

In total, nine articles were pulled from this database.

Database Two: SpringerLink

The second search was done through the SpringerLink database. A search was made: (hearing loss AND deaf*) AND (socioeconomic* OR socioeconomic status OR income OR income level) AND (US OR United States* OR America* OR US-based) NOT (literature review). 157 articles were found. Two articles were pulled from this search.

A second search was done with the term: (socioeconomic OR low-SES) AND (hearing loss OR deaf*) AND (United States), which produced 9,359 articles. Then, filters were applied to include only articles in English from the last 10 years, narrowing the results pool to 4,336. One article was pulled from this search.

In total, three articles were pulled from this database.

Database Three: MEDLINE

This database was accessed through the UGA Library system. A search term was plugged in: (socioeconomic OR low-SES) AND (hearing loss OR deaf*) AND (United States). 944 articles were provided. Then, filters were added so that articles were published within the last ten years, were peer-reviewed, and had accessibility online, yielding 391 search results. Three articles were pulled from this journal and database.

Database Four: University of Georgia Libraries

The final search for the topic looked at the databases offered by the University of Georgia. The first search term used was: (socioeconomic OR low-SES) AND (hearing loss OR deaf*) AND (United States). 707 articles were present. The search was then filtered for being peer-reviewed, being written in English, and being published within the past ten years, and being a resource accessible online. 131 articles were produced. Two articles were chosen from this section.

The second search term used was the following: (socioeconomic OR low-SES) AND (hearing loss OR deaf*) AND (United States) AND (geography OR transport*). 114 articles were produced. Three articles were chosen from this search.

Results

Individuals with low SES who experience hearing loss face barriers to healthcare access due to multiple factors. Three common themes emerged during the research: the cost of medical care, the accessibility and location of medical care, and the likelihood of medical comorbidities.

The utility cost of hearing aids and medical care

Only 20% of older Americans who experience hearing loss use hearing aids, and only 10% of minority and low-income older Americans use them (Nieman et al., 2016). Among older adults, those with hearing loss had 1.85 times the odds of reporting unmet medical needs, 1.37 times the odds of delaying medical care, and 1.81 times the odds of having unfilled prescriptions (Mahmoudi, 2021). Part of this is due to a delay in receiving a diagnosis or treatment. Hearing loss testing is not uniform in all areas, and referrals for advanced testing are uncommon, decreasing the likelihood of individual treatment (Hixon et al., 2016). Hearing loss is an important condition to have diagnosed early for, because any delay can lead to worse health outcomes. Many adults with hearing loss require referrals through primary care providers, which increases the number of doctor visits, appointments, and referrals needed to receive care (Powell et al., 2019). The diagnostic process to obtain hearing devices, such as hearing aids or cochlear implants, is complicated and time-consuming for most individuals. Alongside this, they must combat the heavy financial burden due to travel time, missed work, and the cost of hearing equipment, all of which are prohibitive for individuals of low SES (Hixon et al., 2016). This process disproportionately affects lower SES individuals.

Along with the long referral process, health insurance acts as a barrier to healthcare access. Insurance does not always cover hearing aids and the care required to use these devices successfully (Powell et al., 2019). For example, Medicaid provides insurance access to individuals living near and below the poverty line. Still, 22 states offer no coverage for hearing

care through Medicaid, and the level of care provided by the other 28 states varies considerably, leaving many low-SES individuals without insurance for auditory care (Powell et al., 2019). Having private health insurance a crucial part of obtaining hearing aids for individuals of a low SES with hearing loss, but the cost of private insurance is prohibitively high for those of low-SES, with only 18.4% of low-SES individuals having private insurance in a 2018 study of older adults with hearing loss (McKee et al., 2018).

Cost is among the most common barriers to hearing aid access, alongside adequate or completely absent insurance coverage. A study of the affordability of hearing aids in the United States indicated that the average cost of a hearing aid, which is $2500, would constitute a catastrophic expense for 77% of Americans with functional hearing loss (Jilla et al., 2023). In an interview with 21 individuals, those in the bottom 25% of wealth struggled with the medical costs of hearing aids, especially when balancing the costs of other conditions or living expenses (McKee et al., 2018). A study of rural individuals of low SES corroborated these results. Even if participants were aware of their hearing loss, they would refuse to continue with treatment because the cost limited their ability to do so (Powell et al., 2019).

Over time, medical equipment has become more accessible and affordable, but hearing loss is a progressive condition that requires intervention to prevent it from worsening (Mo et al., 2024). Inadequate coverage is part of the reason there is low uptake of hearing aids, and this has contributed to an overall increase in the severity of hearing loss among low SES populations (Mo et al., 2024).

The current model of care requires a high degree of health literacy to navigate the involved systems, a skill inaccessible to many individuals (Nieman et al., 2016). A study displayed that 46.7% of low-income participants had inadequate health literacy, which the

researchers deem extremely important for accessing healthcare (Nieman et al., 2016). The skills to process crucial medical information can be a barrier to all individuals, especially those of a lower SES, who may have additional concerns.

Individuals with self-identified hearing loss may be less effective at accessing and using health care services (Gopinath et al., 2023). The knowledge needed to use hearing aids properly is integral to use and maintenance. Hearing loss may cause individuals to have a reduced ability to communicate with healthcare providers, including follow-up care, creating a significant barrier to healthcare access (Mahmoudi et al., 2021). Individuals with hearing loss need proper training to use their medical devices, and an individual who struggles to access healthcare because of their poor hearing may struggle with medical self-advocacy, or the process of ensuring that they can receive the medical treatment they need.

The affordability of hearing care is a barrier that should be considered alongside other factors, such as employment and food security. Studies indicate that hearing loss is associated with reduced employment. A study of hearing loss and workforce participation found that individuals with moderate hearing loss held an unemployment rate of 12.8% while their hearing peers reported an unemployment rate of 9.4% (Garcia Morales et al., 2022). Those with moderate or severe hearing loss are 28.2% less likely to be a part of the labor force (which is a broad term that is defined as all individuals who are currently working a job, on layoff, or actively searching for a job) (Garcia Morales et al., 2022). They may encounter discriminatory lower wages or a lack of accommodations, deterring them from the working market alongside other barriers (Garcia Morales et. al., 2022). This disparity may impact individuals with hearing loss and their overall socioeconomic status if they face obstacles in the workforce. Social support and employment can mitigate economic barriers to hearing healthcare (Chan et al., 2017).

Employment opportunities mean health insurance opportunities; without access to employment insurance, individuals may only have access to Medicaid, which cannot cover all of their healthcare needs.

Food insecurity, meanwhile, is considered a social determinant of poorer health, where individuals with self-perceived hearing difficulties are more likely to experience food insecurity (Gopinath et al., 2023). During the early phases of the COVID-19 pandemic, a study found an increase in food insecurity that significantly impacted the deaf and hard-of-hearing community, where 42% of deaf and hard-of-hearing individuals were concerned about running out of food before obtaining the money to buy more (Engelman et al., 2021). The pandemic impacted both hearing and hard-of-hearing individuals of low SES; however, there were specific barriers that increased challenges faced by those at a lower SES. With fewer resources for food security, individuals with hearing loss cannot prioritize access to hearing care.

Concerns about employment, food accessibility, and medical costs create barriers to healthcare accessibility as individuals balance their needs, wages, and priorities.

Geographic variations and transport

An individual's place of residence, notably whether they live in a rural or urban environment, influences their ability to access hearing healthcare services (Powell et al., 2019). Older adults in rural communities report increased geographical barriers and transportation challenges to healthcare access (Shuffler et al., 2023). In one study, rural individuals with hearing needs reported having to drive over two hours to see a hearing specialist due to a lack of locally available providers (Powell et al., 2019) In 2017, 5.8 million people in the United States delayed medical care because of a lack of available transportation, and individuals with a lower-SES were more likely to report a transport barrier to care (Wolfe et al., 2023). There are

health care workforce shortages in rural areas and limited options for specialty medical services, such as audiologists (Shuffler et al., 2023).

Affordability issues vary significantly by geographic region. Higher affordability issues occur in areas with lower median annual incomes (Jilla et al., 2023). The geographic regions experiencing higher rates of hearing care affordability issues are the regions where state-level Medicaid coverage of hearing health care is worse (Jilla et al., 2023). If an individual cannot afford to travel for medical care, they face the high costs of medical care in their area, which creates a barrier to accessing healthcare.

Hearing loss is higher in areas with low access to quality healthcare (Powell et al., 2019). Geography and transportation are barriers for individuals with socioeconomic status who cannot afford the time away from work and may already face employment challenges due to hearing loss (Garcia Morales et al., 2022). Rural older adults experience greater health disparities than their urban counterparts, which is true regarding travel and medical expenses (Jilla et al., 2023).

An increased risk of comorbidity and other health-related issues

Individuals of a lower socioeconomic status who experience hearing loss may be at an increased risk of other health-related issues. Epidemiologic evidence has shown that hearing loss is independently associated with significant adverse health outcomes, such as an overall decreased physical functionality, dementia and mental decline, and an increased rate of falls and hospitalizations (Nieman et. al., 2016). Hearing loss is associated with cognitive decline and loneliness (Garcia Morales et. al., 2022). While there has been a statistically significant decrease in hearing loss over time, the severity of hearing loss has increased among US adults overall (Mo et al., 2024)

Adults who report trouble hearing have highly increased odds of reporting increased confusion and memory loss, and are less likely to report good overall health when compared to their peers reporting no hearing difficulty (Marrone et al., 2019). Some studies have shown that individuals who experience hearing loss report diabetes as well, which is an additional physical health concern for those experiencing hearing loss (Marrone et al., 2019). Diabetes is often linked to higher hearing loss rates due to risk factors like age. However, some studies do not confirm this correlation, suggesting an underlying pattern of hearing loss related to reported health conditions (Marrone et al., 2019). Those with hearing loss were less likely to self-report experiencing good health outcomes, potentially indicating that hearing is tied to overall health (Marrone et al., 2019). Individuals with comorbid health concerns may struggle to meet the medical demands of all conditions and to access the care required.

Individuals with hearing loss experience communication barriers when seeking medical care and medication, which can affect their adherence to medication and care (Piao et. al., 2024). Hearing loss has been associated with an increased risk of hospitalization and is a condition that may require ongoing management (Piao et al., 2024). Socioeconomic status may play a role in an individual's ability to access proper medical care and medication beyond immediate hospitalization, making a barrier to care in addition to experienced hearing loss.

Mental and emotional well-being is another health-related issue. A study of adults with a low annual health income who were provided with hearing devices showed that these devices increased feelings of self-efficacy (Nieman et al., 2022). Self-perceived communication function is an integral part of care. Additionally, those who reported trouble hearing also reported an increase in the number of days they experienced poor psychosocial health in a month (Marrone et al., 2019). This study examined how many days they felt as though they struggled with their

mental health, including stress, depression, and emotional regulation. It did not rely on a diagnosis (i.e., asking if they had been diagnosed with a specific mental health disorder). Instead, it requested individuals to self-examine for how hearing loss may cause them an increased feeling of stress, sadness, and isolation, which are symptoms associated with poor psychosocial health. Research has suggested that workers who experience hearing loss face increased levels of stress, fatigue, and burnout. Those experiencing hearing loss have 2.05 times the risk of feeling fatigue every day compared to those without hearing loss, and approximately 26% of workers with hearing impairments report stress and burnout compared to 7% of their peers with full hearing (Garcia Morales et al., 2022). Adolescents with low SES report feeling as though they are bullied more, feel their hearing loss impedes their future, and are less likely to ask for help compared to their peers in higher SES groups (Hofmann et al., 2020). Poor mental health can make it difficult to access medical care on a personal level.

Children in rural residences are more likely to be diagnosed with developmental disability and several other conditions, such as ADHD and hearing loss (Zablotsky et al., 2019). Hearing loss impacts how individuals function throughout their lifetime, and its presence may be associated with other developmental disabilities (Zablotsky et al., 2019). Studies show that for children, the amount of spoken language they receive while developing can be an indicator for language skills and quality of life measurements, and children in lower SES groups tended to do poorer in the sentence recognition category than their peers with higher SES by sixteen percentage points (Hofmann et al., 2020). These disabilities may be viewed as something that should be addressed first and could impact care in other areas.

Additionally, self-perceived hearing loss could potentially prevent adults from accessing care, creating more physical disabilities and challenges (Gopinath et al., 2023). Older adults were

more likely to underestimate their hearing loss than younger adults (West & Lynch, 2020). They see reporting their hearing loss unnecessary because it becomes more common with age (West & Lynch, 2020). Individuals with significant self-identified hearing loss are likely to experience both financial and physical difficulties. They are at a high risk of poor health outcomes due to the interactions between economic struggles and chronic health conditions (Gopinath et. al., 2023). These conditions, alongside economic struggles, create a new barrier to healthcare access for these individuals.

Conclusion

Studies continue to show the importance of including a full range of hearing disability when planning public health surveillance and programs. The utility cost of hearing aids and the medical care associated with them, the geographic variations and transport required to access healthcare, and comorbid health outcomes appear to be factors that contribute to healthcare access in those who experience hearing loss and have a lower SES.

The cost of healthcare is the first issue to address, where many individuals cannot afford the cost of hearing assistance (e.g., hearing aids, cochlear implants, etc.). This creates a barrier to care as hearing care is now inaccessible. The second element is the transportation required to access hearing care. Since many individuals who experience hearing loss and low socioeconomic status live in rural areas, they have fewer options for care and must travel further to receive it. The cost of transportation, time away from work, and other factors may cause individuals not to pursue hearing assistance and care. The third element discussed is the comorbidity of hearing loss and other health conditions. Individuals with hearing loss are more likely to experience different adverse health outcomes, both physical and mental. Additionally, social pressure

prevents individuals from pursuing assistance with their hearing, which places a strain on their mental well-being, preventing them from accessing care.

All three elements proposed impact an individual's ability to access healthcare. This paper discussed how individuals with a low socioeconomic status may struggle with healthcare access, especially concerning hearing loss. This condition is chronic, often lifelong, and requires extensive, advanced care. Worse health access appears due to the cost of care, the transport to the care, and other healthcare needs that should be met alongside the hearing loss. Many of these reasons mean that these individuals cannot receive necessary care, and solutions must be found to serve this population.

Limitations

Only twenty articles were used for this analysis across four databases. These articles do not cover every topic that should be considered when discussing hearing loss, SES, and access to care. Additionally, this topic is niche: it requires articles covering many research areas. Many studies on hearing loss focused on other issues alongside socioeconomic status, such as age, gender, and race, which were factors that this review ignored in favor of focusing specifically on socioeconomic status. Oftentimes, older adults were discussed instead of younger populations since many articles that were chosen that discussed hearing loss and socioeconomic status focused on the struggle of adults. Another change that should be made is to increase the sample size of studies done. Within the research, specific studies had a limited number of participants, and increasing the number of participants may increase the information and accuracy provided by the articles. Further, the research design of these articles can be addressed, since many studies examine a wide variety of information in a retrospective manner and can face challenges with the completeness of data or the demonstration of causality.

Implications

The prevalence of hearing loss has continued to increase in the United States and globally (Malcolm, 2022). Supporting those with hearing loss requires responses and solutions that can serve individuals without access to care and resources (Blazer, 2016). In March of 2023, the World Health Organization released a technical guide on hearing aid services for low- and middle-income settings, designed to support countries in developing hearing aid services. According to the WHO Director of Noncommunicable Diseases, unaddressed hearing loss accounts for a global public health cost of over $1,000,000,000,000 USD annually (World Health Organization, 2024).

Enhanced accessibility of hearing care will benefit the issue. Developing affordable hearing screening technologies, such as wireless earbud hardware that detect otoacoustic emissions, can facilitate early diagnosis when limited resources are limited (Chan et al., 2022). One study developed hearing devices capable of detecting otoacoustic emissions (OAEs) for hearing assessments. Traditionally, OAE detection required the use of expensive equipment. Still, the study's earbud design addressed this by creating low-cost acoustic hardware combined with advanced algorithms to distinguish OAEs from other in-ear sounds (Chan et al., 2022). This development may improve hearing technology by creating an inexpensive solution. Developing new, better technology establishes accessible hearing solutions, especially for those who struggle to afford traditional hearing care.

Incorporating hearing aid functions into widely used technology can increase access to hearing assistance devices. Apple has developed its AirPods to have clinical-grade hearing aid functionality, creating a more accessible form of hearing aids. Many hearing aids require thousands of dollars to obtain. AirPods are a fraction of the cost and provide individuals with

easy access to hearing technology within a standard item (Apple Support, 2024). Studies have shown that hard-of-hearing individuals perceive Apple's accessibility tools to be accessible and somewhat helpful for hearing (Hammond & Diedesch, 2023). Providing low-cost alternatives to hearing aids does not replace traditional medical hearing aids. Still, they may give individuals a more accessible way to address their hearing challenges.

Further research should be done to make hearing more accessible for everybody. This may include developing policies or programs to lower the cost of medical visits or developing affordable hearing technology for those in need.

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