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Healthcare accessibility for vulnerable people with hearing loss: A systematic review

Accesibilidad sanitaria para personas vulnerables con pérdida auditiva: revisión sistemática

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Abstract

This study addressed the accessibility of health services for people with hearing loss in vulnerable contexts through a qualitative literature review. The Scielo, Web of Science, Scopus, PubMed, and ProQuest databases were searched, initially identifying 350 articles, of which 29 met the inclusion criteria. The results highlighted four fundamental barriers hindering access to hearing care: organizational, individual, structural, and social. These limitations generate health inequalities for this population. Among the main obstacles are the lack of inclusive protocols, insufficient specialized resources, high costs, and negative sociocultural perceptions, all of which contribute to social exclusion. Therefore, the study concludes that it is urgent to integrate hearing health into primary care through comprehensive public policies that promote coordinated actions in financing, professional training, infrastructure improvement, and community education. These measures are necessary to guarantee equitable and timely access, fostering the well-being and effective social inclusion of people with hearing disabilities.

Keywords: accessibility, hearing impairment, patients, vulnerable populations, health services.

Resumen

El presente estudio abordó la accesibilidad a servicios de salud para personas con pérdida auditiva en contextos vulnerables, mediante una revisión cualitativa de la literatura. Se revisaron las bases Scielo, Web of Science, Scopus, PubMed y ProQuest, identificándose inicialmente 350 artículos, de los cuales 29 cumplieron con los criterios de inclusión. Los resultados destacaron cuatro barreras fundamentales que dificultan el acceso a la atención auditiva: organizacionales, individuales, estructurales y sociales. Estas limitaciones generan desigualdades en la salud de esta población. Entre los obstáculos principales se encuentran la ausencia de protocolos inclusivos, la insuficiencia de recursos especializados, los costos elevados y las percepciones socioculturales negativas, las cuales contribuyen a la exclusión social. Por ello, se concluye que es urgente integrar la salud auditiva en el primer nivel de atención, mediante políticas públicas integrales que promuevan acciones coordinadas en financiamiento, capacitación profesional, mejora de infraestructura y educación comunitaria. Estas medidas son necesarias para garantizar un acceso equitativo y oportuno, que favorezca el bienestar y la inclusión social efectiva de las personas con discapacidad auditiva.

Palabras clave: accesibilidad, discapacidad auditiva, pacientes, poblaciones vulnerables, servicios de salud.

Introduction

Hearing loss represents a substantial global health burden, and due to the aging population, a considerable increase in its prevalence is anticipated in the coming years. According to the World Hearing Report, more than 1.5 billion people worldwide experience some degree of hearing loss, with older adults being the most affected group. It is estimated that over 65% of individuals aged 60 and older suffer from this condition, making it a priority health issue (Organización Panamericana de la Salud [OPS], 2021). Additionally, approximately 1.2% of males and 1.0% of females over 15 years of age experience severe or profound hearing loss (Bierbaum et al., 2020).

Hearing loss profoundly impacts both individuals and society at large, as it disrupts communication, diminishes quality of life, fosters isolation, and induces psychological distress (Lim et al., 2025). It also adversely

affects social interaction by limiting communication with one's immediate environment, which negatively impacts familial, professional, and educational relationships (Abreo et al., 2021). Furthermore, it leads to increased healthcare costs and greater use of social services (Deloitte Access Economics, 2017).

Various studies have explored the stages of hearing care, from the role of primary care and hearing assessments to the use of hearing aids and cochlear implants (Bennett et al., 2020; Ebrahimi-Madiseh et al., 2022). However, gaps remain in the comprehensive understanding of access to care for patients with hearing loss, underscoring the importance of considering the real experiences and needs of those navigating these healthcare systems.

Different authors have defined the concept of access to healthcare through various lenses. For instance, Levesque et al., as cited by Amenyeku et al. (2023), describe it as the ability to identify health needs, seek appropriate services, utilize them effectively, and have those needs met. Chinkonono et al. (2020) argue that access involves not only the availability of services but also ensuring that the population can use them according to their needs, thereby ensuring that services respond to the actual demands of the community.

In Australia, access to hearing care is hampered by limited coverage in public programs that primarily serve older adults and pensioners. As a result, many vulnerable individuals are excluded and face high costs due to the privatization of the system. In the United Kingdom, barriers persist, including long waiting times, restricted access in rural areas, and low awareness of hearing loss among vulnerable groups. Moreover, there are regional and socioeconomic inequalities in the quality of care, which drive some patients to seek private sector services due to perceptions of inefficiency within the public system (Bierbaum et al., 2020).

Conversely, in the United States, although 20% of the population experiences hearing loss, the healthcare system is inadequately equipped to meet their needs. These individuals encounter barriers such as communication difficulties, lack of access to appropriate information, and insufficient training among healthcare staff. They also show lower levels of health literacy and decreased satisfaction with care, factors that compound inequalities and raise costs and inefficiencies within the system (McKee et al., 2022). Furthermore, they are more likely to lack a personal healthcare provider and to have not undergone routine check-ups in the past two years, often avoiding medical care due to financial constraints (González et al., 2023).

In Latin America, despite the availability of effective auditory interventions, many individuals with hearing loss face significant barriers to accessing hearing aids and cochlear implants. These challenges include disparities in healthcare accessibility, a shortage of personnel and resources, inadequate technical maintenance, low social awareness, and associated stigma. Notably, the high cost and the necessity for highly specialized services further limit the availability of cochlear implants (Morros-González et al., 2022).

In Colombia, the primary barrier to hearing aid usage is the lack of a medical prescription (51.2%), which is linked to poor access to specialized hearing health services. Other difficulties are administrative and patient-specific (Cerón-Perdomo et al., 2024). In Peru, individuals with hearing disabilities account for 7.6% of the disability population, approximately 15,177 individuals, who face structural discrimination that limits their full development and the exercise of their rights (Soberón et al., 2023).

While policies and strategies have been implemented to enhance access to health services for this population, structural gaps and operational barriers still hinder equitable care (Ciuffardi et al., 2021). Consequently, this research aims to provide updated scientific evidence regarding access to health services for individuals with hearing loss. Moreover, the systematic collection of this information will help identify the types of barriers that obstruct timely and equitable access to auditory care.

This review article, therefore, intends to analyze the published scientific evidence from 2020 to 2025 in indexed journals such as Scielo, Web of Science, Scopus, and ProQuest, focusing on the accessibility conditions for health services among vulnerable populations with hearing loss. This exploration seeks to address the question: How is the study of healthcare accessibility conducted in these populations?

Methodology

This research adopted a methodological approach based on a descriptive literature review aimed at analyzing the scientific production related to health accessibility for population groups with hearing loss exposed to structural inequalities. The selection of scientific articles employed the PRISMA method to ensure transparency, rigor, and reproducibility of the included studies, following a process grounded in explicit criteria and a systematic search strategy.

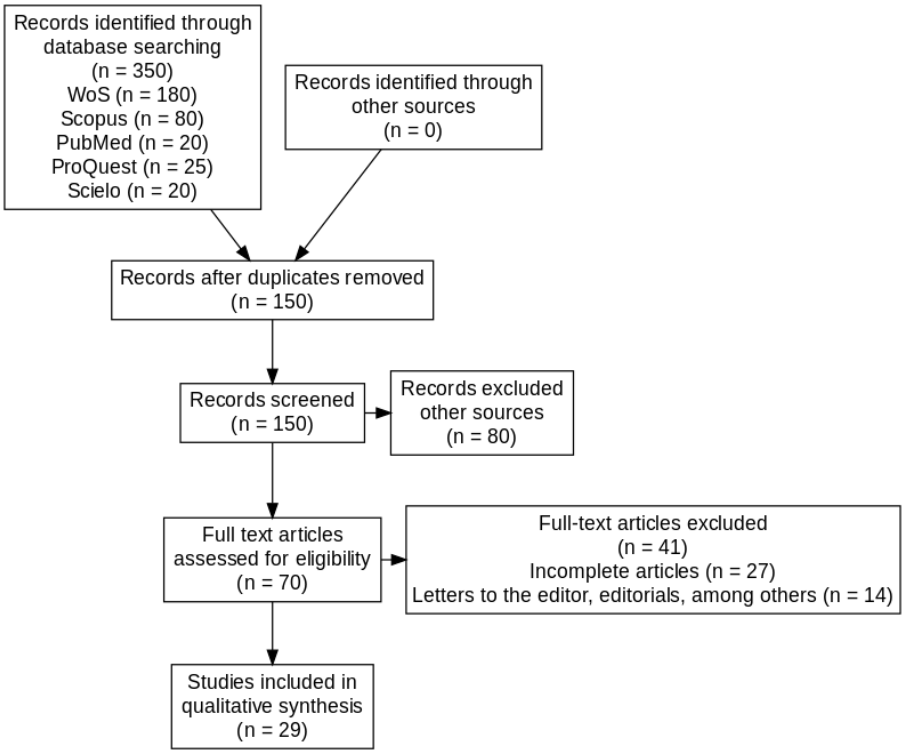
In this context, articles published in journals indexed in at least one of the following five databases were chosen: Scielo, Web of Science (WOS), Scopus, PubMed, and ProQuest. Inclusion criteria were based on three main factors: (1) articles addressing health accessibility for individuals with hearing disabilities; (2) publications in Spanish or English, with no geographic restrictions; and (3) articles published between 2020 and 2025.

The information collection was grounded in documentary sources, conducted through direct searches in the aforementioned databases. Search terms were applied in combination with Boolean operators AND, OR, and NOT, such as: *("health accessibility") AND ("health barriers") OR ("hearing impairment") AND ("hypoacusis") AND ("vulnerable populations with hearing loss") NOT ("physical disability") AND ("mental disability")("health accessibility") AND ("health barriers") OR ("hearing impairment") AND ("hypoacusis") AND ("vulnerable populations with hearing loss") NOT ("physical disability") AND ("mental disability")("health accessibility") AND ("health barriers") OR ("hearing impairment") AND ("hypoacusis") AND ("vulnerable populations with hearing loss") NOT ("physical disability") AND ("mental disability").* An equivalent search strategy was used in Spanish. Subsequently, specific filters based on language and publication period available in each database were applied to enhance the relevance of the results.

Initially, 350 articles meeting the established criteria were identified. After a preliminary review of titles, abstracts, and content, 320 documents that did not fully align with the thematic focus were discarded, yielding a final selection of 29 studies.

To organize the information, a bibliographic matrix was created using Microsoft Excel, where data such as title, author, year of publication, country of journal origin, journal name, database, and quartile were recorded. This facilitated the detection of possible duplicates generated by indexing across different databases. Figure 1 presents a flowchart illustrating the PRISMA method process, from the initial identification in databases to the final inclusion of studies.

Figure 1
PRISMA flow diagram



Results

Following the established methodological guidelines, the first stage presents a table that systematizes key information for each study, including the author, country of origin, journal of publication, and indexing database. As a result of the literature review process, the following research was compiled:

Table 1

Bibliographic matrix on health accessibility in vulnerable populations with hearing loss, 2020-2025

No.	Author	Country	Journal	Indexing
1	Mahmoudi et al. (2021)	United States	Seminars in Hearing	Scopus, PubMed
2	Waterworth et al. (2022)	United Kingdom	Global Public Health	Scopus, PubMed
3	O'Donovan et al. (2020)	United Kingdom	International Journal for Equity in Health	Scopus, PubMed, Web of Science
4	Waterworth et al. (2023)	United Kingdom	The Journal of Laryngology and Otology	Scopus, PubMed
5	McMahon et al. (2021)	Australia	Public Health Research and Practice	Scopus, PubMed
6	Bierbaum et al. (2020)	United States	Ear and Hearing	Scopus, PubMed
7	Neukam et al. (2024)	United States	Otology & Neurotology	Scopus, PubMed
8	Dillard et al. (2023)	United States	American Journal of Audiology	Scopus, PubMed
9	Torrente (2024)	Chile	Revista de Otorrinolaringología y Cirugía de Cabeza y Cuello	Scielo
10	Izquierdo-Condoy et al. (2024)	United States	Disability and Health Journal	Scopus, PubMed
11	Baratedi et al. (2022)	United Kingdom	Journal of Nursing Scholarship	Scopus, PubMed
12	Mansutti et al. (2023)	United Kingdom	Journal of Clinical Nursing	Scopus, PubMed
13	Watanabe et al. (2025)	United Kingdom	BMC Public Healthq	Scopus, PubMed ProQuest, Web of Science
14	Wilson-Menzfeld et al. (2025)	United Kingdom	Health & Social Care in the Community	Scopus
15	Kapoor et al (2023)	United States	Canadian Journal of Anaesthesia	Scopus, PubMed, Web of Science
16	James et al. (2022)	United States	Disability and Health Journal	Scopus, PubMed
17	Hay-McCutcheon et al (2021)	Netherlands	Journal of Community Health	Scopus, PubMed, Web of Science
18	Orji et al. (2020)	United Kingdom	International Journal of Audiology	Scopus, PubMed
19	Jilla et al. (2020)	United Kingdom	Disability and Rehabilitation: Assistive Technology	Scopus, PubMed
20	Sohmer et al. (2025)	Ireland	Patient Education and Counseling	Scopus, PubMed
21	Yin et al. (2025)	United Kingdom	BMC Public Health	Scopus, PubMed, Web of Science
22	Lame et al. (2023)	Nigeria	Pan African Medical Journal	Scopus, PubMed
23	Bhutta et al. (2022)	United States	Current Opinion in Otolaryngology and Head and Neck Surgery	Scopus, PubMed
24	García & Conceiro (2021)	Spain	Index de Enfermería	Scielo
25	Fuentes et al. (2024)	Colombia	Revista Ciencias de la Salud	Scielo
26	Cortina et al. (2022)	United States	Otolaryngology - Head and Neck Surgery	Scopus, PubMed
27	Vieira et al. (2023)	Brazil	Cogitare Enfermagem	Scielo

28	García et al. (2025)	United States	PLOS One	Scopus, PubMed
29	Ruiz & Barría (2023)	Colombia	Revista de Salud Pública	ProQuest

In the realm of health accessibility, the most frequently analyzed barriers pertain to organizational challenges. Among these, significant difficulties arise from communication issues between healthcare personnel and patients, particularly evident in the lack of proficiency in sign language and the absence of qualified interpreters. These factors severely hinder the provision of adequate care for individuals with hearing disabilities.

Moreover, insufficient professional training impedes effective communication, compounded by a lack of specialized education in hearing disorders and impairments, all of which adversely affect service quality. Additional challenges include limited time for patient assessments, a shortage of specialists in auditory health, inadequate equipment for the implementation of devices, and the absence of standardized protocols to guide care for this population (Mahmoudi et al., 2021; Waterworth et al., 2022; Neukam et al., 2024; Izquierdo-Condoy et al., 2024; Mansutti et al., 2023; James et al., 2022; García & Conceiro, 2021; Fuentes et al., 2024; Vieira et al., 2023).

With respect to individual barriers, the high costs of hearing aids and implantable devices stand out, as they are often unaffordable for much of the population affected by hearing loss. These groups, predominantly from low- to middle-income countries, tend to have lower educational levels and higher unemployment rates, which limits their ability to directly finance medical expenses. Furthermore, a low level of health literacy regarding hearing issues and a mistrust of medical services stem from experiences of inadequate communication and perceptions of therapeutic inefficacy (Waterworth et al., 2023; McMahon et al., 2021; Mansutti et al., 2023; Baratedi et al., 2022; Orji et al., 2020; Ruiz & Barría, 2023).

Regarding structural barriers, Mahmoudi et al. (2021) and Baratedi et al. (2022) highlight the limited availability of prescribed medications for individuals with hearing loss, who frequently find themselves obligated to purchase them from the private sector. Similarly, Waterworth et al. (2023) and Bierbaum et al. (2020) document restricted access to auditory care at both primary and specialized levels, particularly in rural areas. This deficit is linked to a shortage of otolaryngology specialists, limitations on coverage of benefits (Torrente, 2024), and the lack of specific policies and infrastructure, all of which directly impact service accessibility and quality (Wilson-Menzfeld et al., 2025; James et al., 2022). In contexts such as the United States, health insurance plans do not cover costs associated with hearing aids or rehabilitation processes (Jilla et al., 2020).

Finally, concerning social barriers, regions have been identified where individuals with hearing loss face geographic obstacles due to long distances required to access healthcare facilities (O'Donovan et al., 2020; Waterworth et al., 2023; Hay-McCutcheon et al., 2021). A profound mistrust of the auditory healthcare system is influenced by the perception that hearing loss is an inevitable consequence of aging, which discourages individuals from seeking assistance. Furthermore, there is a lack of public awareness regarding the use of hearing devices or implants (McMahon et al., 2021; Neukam et al., 2024).

In certain contexts, the deaf community remains more marginalized than other groups such as immigrants or indigenous populations, as the cultural and linguistic barriers impacting their care do not receive the same attention. While diversity training programs often focus on racial or geographic aspects, the specific communicative needs of the deaf community continue to be overlooked (Ruiz & Barría, 2023).

Discussion

The evaluation of the challenges limiting access to auditory health services reveals a complex web of organizational, individual, structural, and social factors that interact and mutually reinforce one another, resulting in persistent inequities. Organizationally, one of the most common limitations is the communication deficiencies between healthcare providers and individuals with hearing disabilities (Mahmoudi et al., 2021; Ruiz & Barría, 2023). The lack of qualified interpreters, standardized protocols, and competencies in sign language leads to fragmented care, often reliant on family members as intermediaries (Soberón et al., 2023). These gaps not only reflect inadequacies in professional training but also a historical underprioritization of auditory health, manifesting in limited investment in training and adaptive resources. Additionally, heavy workloads and restricted time availability exacerbate communication barriers (Kapoor et al., 2023).

The Pan American Health Organization (OPS, 2021) affirms that medical personnel face challenges when communicating with individuals who have hearing loss, thereby limiting clinical assessment and delaying intervention. However, Hay-McCutcheon et al. (2021) demonstrate that most adults with auditory challenges have access to primary care physicians, establishing this level of care as an essential resource for promoting auditory health. In this regard, García et al. (2025) argue that healthcare professionals must have access to appropriate

communicative resources, both verbal and non-verbal, as well as human, technological, and educational supports tailored to the specific context.

Regarding individual barriers, economic factors and low health literacy with respect to hearing issues emerge as crucial determinants (McMahon et al., 2021; Orji et al., 2020; Sohmer et al., 2025). The high costs of hearing aids and implants, coupled with expenses for transportation and living essentials, exclude many low-income individuals from accessing necessary care. Furthermore, limited health literacy diminishes treatment adherence and encourages postponement of care, while low educational levels and a lack of informative campaigns perpetuate this cycle of neglect. According to the OPS (2021), less than 15% of those needing hearing devices in low- and middle-income countries manage to obtain them, a situation further compounded by a lack of awareness regarding their use. Soberón et al. (2023) emphasize that the absence of government information and negative experiences with hearing aids contribute to decreased treatment adherence.

Structural barriers reflect inequalities in resource distribution. Reports indicate insufficient availability of auditory services at both primary and secondary levels, especially in rural areas, where distance and lack of transportation complicate access (Waterworth et al., 2023; Bierbaum et al., 2020; Torrente, 2024; O'Donovan et al., 2020). The shortage of specialists, inadequate infrastructure, and urban concentration of services deepen these disparities. The exclusion of hearing aids and rehabilitation interventions from insurance coverage in various countries (Jilla et al., 2020; Orji et al., 2020) underscores a financial model that does not recognize auditory health as an essential component. The OPS (2021) and Soberón et al. (2023) also highlight the limited availability of interpreters in rural areas. In light of this reality, telehealth, particularly tele-audiology, has proven to be an effective tool in overcoming barriers of distance, time, and language (Clark et al., 2020; Dimer et al., 2020).

Finally, social barriers reflect cultural and geographical determinants. The normalization of hearing loss as a natural process of aging (McMahon et al., 2021) and the stigma associated with using hearing devices (Neukam et al., 2024) diminish the pursuit of care. Individuals who are deaf often experience institutional invisibility and lack culturally appropriate training that prioritizes their communicative needs, in contrast to other groups such as immigrants or indigenous populations (Ruiz & Barría, 2023). The OPS (2021) identifies stigma as the primary obstacle to care, manifested in denial, isolation, and rejection of hearing aids, while Soberón et al. (2023) point out discriminatory treatment and dependence on family members as factors that perpetuate exclusion. In contrast, Mansutti et al. (2023) underscore that ensuring the presence of interpreters and allowing family participation enhances communication and promotes inclusion. Therefore, raising awareness among healthcare personnel and society through straightforward strategies can contribute to dismantling these barriers and improving equity in care.

Conclusion

The findings illustrate that organizational, individual, structural, and social barriers to accessing auditory health services form a multifaceted problem that limits equity in healthcare. The absence of inclusive protocols, a lack of specialized resources, high costs, and negative sociocultural perceptions combine to deepen the exclusion of individuals with hearing disabilities.

These results, consistent with prior research, highlight the urgent need for comprehensive policies that recognize auditory health as a fundamental component of primary care. To overcome these barriers, it is essential to implement coordinated interventions in areas such as funding, personnel training, infrastructure enhancement, and community awareness. Only through these efforts can timely, affordable, and culturally appropriate access be guaranteed for all individuals.

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