






Hospital Pharmacists' Perspectives on Communicating with Hearing-Impaired Patients in Pharmacy Settings: A Qualitative Study

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Background: Effective communication between hospital pharmacists and patients with disability is essential to ensure proper usage of prescribed medication, medication safety, and therapeutic outcomes. However, patients with hearing impairments encounter unique challenges that are often overlooked in pharmacy practice. There is limited evidence regarding how hospital pharmacists in Saudi Arabia address communication barriers with this patient group.

Objective: To explore the experiences, challenges, and suggestions of hospital pharmacists in Saudi Arabia regarding communication with hearing-impaired patients in pharmacy settings.

Methods: A qualitative descriptive study was conducted using an open-ended online survey distributed to hospital pharmacists across Saudi Arabia between April and May 2025. Twenty-six pharmacists responded to eight open-ended questions covering their experiences, training, communication barriers, and institutional support. Responses were analyzed thematically to identify key themes and insights.

Results: Six major themes resulted from the analysis: (1) lack of formal training and preparedness, (2) limited direct experience with hearing-impaired patients, (3) communication barriers including time constraints and lack of tools, (4) suggestions for communication aids such as tablets and visual boards, (5) institutional responsibilities for training and infrastructure, and (6) pharmacists' recommendations for inclusive service improvement. The findings highlight a critical gap in pharmacist training and system-level policies to support disability-inclusive communication in hospital pharmacy practice.

Conclusion: Hospital pharmacists in Saudi Arabia reported limited preparedness and suggested various practical solutions, including written communication tools and visual aids. Findings indicate opportunities for structured training and institutional support to enhance inclusive communication.

Keywords: pharmaceutical care, medicines, pharmacy counseling, hearing impairment, disability, hospital pharmacists, communication barriers

Introduction

Effective communication between patients and healthcare professionals is fundamental to safe and high-quality patient care.¹⁻³ In pharmacy services, communication between pharmacists and patients is critical for ensuring medication adherence, preventing adverse drug events, and empowering patients with knowledge about their treatment.⁴⁻⁶ However, individuals with disabilities, particularly those with hearing impairments, often encounter significant barriers to accessing

equitable healthcare services, including pharmacy counseling.⁷⁻⁹ These barriers may lead to misunderstandings, incorrect medication use, and reduced trust in the healthcare system.¹⁰⁻¹²

Globally, the World Health Organization estimates that over 430 million people live with disabling hearing loss.¹³ In Saudi Arabia and the broader Middle East, hearing impairment remains an under-addressed public health issue, particularly in terms of service accessibility. Hearing-impaired individuals frequently rely on alternative forms of communication such as lip-reading, written notes, or sign language.¹⁴⁻¹⁶

Pharmacists are often the most accessible healthcare professionals in the community.^{17,18} They serve on the frontlines of medication management and patient education, and they engage in clinical and community-based preventive services.^{19,20} However, little is known about how prepared pharmacists are to deal with patients with hearing impairments, and what strategies they use to overcome communication barriers.²¹ The majority of pharmacy education programs globally do not include training in disability communication or deaf culture awareness, leaving pharmacists to use informal methods.^{22,23}

A better understanding of pharmacists' perspectives and experiences is essential to identify gaps in current pharmacy practice and inform future policy and training. Prior research has focused on the experiences of patients with hearing impairments, and few studies have investigated the issue from the pharmacists' point of view.^{7,24}

This study aims to explore how hospital pharmacists in Saudi Arabia perceive and manage communication with patients who have hearing impairments. It investigates the challenges they face, the tools they use or lack, and their suggestions for institutional or educational improvements. This work is a critical step toward developing inclusive pharmacy practices and ensuring safer, more equitable care for individuals with hearing disabilities.

We hypothesize that hospital pharmacists in Saudi Arabia face challenges in communicating with hearing-impaired patients due to limited training and institutional support, but also suggest practical solutions.

Methodology

Study Design and Aim

This study used a qualitative descriptive design to explore the perspectives of hospital pharmacists on communicating with hearing-impaired patients in pharmacy settings across Saudi Arabia. This design provides a straightforward summary of participants' experiences without imposing theoretical interpretation.^{25,26} The aim was to identify the perceived challenges, preparedness, and institutional support mechanisms associated with such communication, and to obtain hospital pharmacists' recommendations for improving pharmacy services for patients with hearing impairment. The survey was specifically developed and validated for the purpose of this study. It was reviewed and validated by two academic experts from the College of Pharmacy at Umm Al-Qura University. An English-language version of the survey is provided as a [supplementary file](#).

Participant Recruitment

Hospital pharmacists were recruited using a purposive sampling, a non-probability approach where participants are selected based on their knowledge or experience in communicating with hearing-impaired patients in pharmacy settings, was employed.^{27,28} Eligible participants were licensed pharmacists currently practicing in hospital settings across different regions of Saudi Arabia. An open invitation to participate in the study was disseminated via professional pharmacy networks and institutional contacts. Participation was voluntary, and informed consent was obtained from all respondents prior to data collection. The participants were 68% were from public hospitals and 32% from private hospitals.

Data Collection

Data were collected through an anonymous, self-administered, open-ended online survey distributed using Google Forms between April and May 2025. The survey consisted of eight open-ended questions developed by the research team based on relevant literature and expert consultation.^{7,21} The questions explored the hospital pharmacists' experiences with hearing-impaired patients, perceived barriers, availability of tools or resources, prior training, institutional roles, and recommendations for improvement. The survey was available in English and Arabic.

Data Analysis

All responses were transcribed, translated into English (when necessary), and analyzed using thematic content analysis, which involves systematically coding textual data to identify emerging patterns and themes, guided data analysis. Two researchers independently reviewed the responses to identify emerging codes and patterns. Initial codes were grouped into overarching themes through an iterative consensus process. Discrepancies were resolved through discussion to ensure reliability of interpretation.

Results

A total of 26 hospital pharmacists participated in this qualitative study, offering detailed insights into their experiences and perceptions regarding communication with hearing-impaired patients. Participants represented different hospitals across Saudi Arabia, providing a broad view of the challenges and opportunities in hospital pharmacy settings. Thematic analysis of the open-ended responses revealed six dominant themes: (1) barriers to effective communication, (2) insufficient training and preparedness, (3) limited direct experience, (4) suggested tools and aids, (5) institutional responsibilities, and (6) proposals for service enhancement.

Barriers to Effective Communication

Survey question: “What barriers, if any, do you experience when communicating with patients who have hearing impairments?”

Pharmacists reported several perceived barriers, including not recognizing a patient’s hearing impairment until miscommunication occurred, limited time during counseling, and lack of structured communication protocols. A few expressed discomfort due to uncertainty in how best to engage with hearing-impaired patients. While these issues were mentioned, not all participants identified barriers, and responses varied in emphasis.

Insufficient Training and Preparedness

Survey question: “Have you received any training on communicating with patients who have hearing impairments? If yes, please describe”.

Most participants indicated that they had not received formal training on this topic. A minority described informal learning or rare encounters that gave them limited confidence. Several respondents noted that their practices were based on personal effort rather than structured training.

Limited Direct Experience

Survey question: “Have you ever directly counseled or interacted with a patient who had a hearing impairment? Please describe your experience”.

Interestingly, over half of the pharmacists reported never having had a significant interaction with a hearing-impaired patient or were unsure about whether such an encounter had occurred. This may reflect under-reporting or under-recognition of disability status due to the lack of visible markers or absence of patient disclosure; and a potential gap in inclusive outreach, where patients with hearing impairments may avoid pharmacy services due to anticipated communication difficulties.

This theme raises critical questions about accessibility, inclusion, and the visibility of disability within routine hospital workflows.

Suggested Communication Tools and Aids

Survey question: “What communication tools, resources, or aids do you think would be helpful when interacting with patients who have hearing impairments?”

Participants suggested a variety of possible tools, including written methods (eg, notepads, whiteboards, tablets), visual aids or pictograms, access to sign language interpreters (either in person or remote), and digital alerts in pharmacy systems to identify communication needs. These were suggestions offered by some respondents rather than consensus recommendations.

These tools were seen not only as necessary but as foundational to building a standardized communication protocol across pharmacies.

Institutional Responsibilities

Survey question: “In your opinion, what role can healthcare institutions or pharmaceutical education play in improving pharmacists’ readiness to deal with people with hearing impairments?”

Pharmacists emphasized the potential role of institutions in offering training modules, integrating disability communication into pharmacy education, and providing policies or resources that enable inclusive care. Some participants suggested that responsibility for interpreters and supportive infrastructure should not fall solely on individual pharmacists. One pharmacist stated, “There should be a translator in the pharmacy. This should not be left to personal effort”. Such feedback reinforces the urgency for system-level change.

Proposals for Service Enhancement

Survey question: “What do you recommend to improve pharmacy services for patients with hearing impairments?”

Respondents proposed several ideas, such as mandatory disability awareness workshops, visual indicators in pharmacy systems, dedicated consultation spaces equipped with accessible technology, and public awareness campaigns. These proposals reflected participants’ perspectives on possible service enhancements rather than uniform or prescriptive solutions. These suggestions point toward a broader vision of inclusive, patient-centered pharmacy practice, aligning with Saudi Arabia’s national goals of healthcare transformation and equity. Full responses were included in the [supplementary file](#).

Discussion

This qualitative study examined the experiences and perspectives of hospital pharmacists in Saudi Arabia on communicating with hearing-impaired patients, highlighting the critical importance of disability inclusion in healthcare and the urgent need to prioritize accessibility within pharmacy practice. Hearing impairment, which can occur at any stage of life from diverse causes, is often permanent and progressive, making it a critical health issue that requires special attention in patient care.^{29–31} The findings reveal critical gaps in professional training, institutional infrastructure, and the overall preparedness of pharmacists to provide inclusive services for patients with auditory disabilities in accordance with previous findings.^{7,21,22} Recent studies found that health professionals often lack training on deaf awareness and effective communication strategies with deaf and hard-of-hearing individuals, leading to compromised trust and engagement during healthcare appointments.^{7,24,32} These studies also found that many pharmacists had limited or no encounters with hearing-impaired patients, raising concerns about unrecognized and unmet needs within hospital settings. This phenomenon may be attributed to both under-reporting and avoidance by patients due to anticipated communication difficulties. Pharmacists’ proposed solutions included the use of tablets, visual aids, and remote sign language interpretation, similar to the international recommendations for accessible communication in clinical settings.^{33,34}

The role of institutional leadership in creating a disability-inclusive healthcare environment emerged as a central theme.^{11,35} Participants called for system-level changes, including standardized training modules, integration of disability identifiers into electronic health records, and the establishment of accessible consultation spaces. These recommendations are supported by the World Health Organization’s 2021 World Report on Hearing, which advocates for health system strengthening through training, resource allocation, and inclusive policy implementation.

This study’s findings align closely with the strategic goals of Saudi Arabia’s Vision 2030 and the Health Sector Transformation Program, particularly in the areas of healthcare equity, digital transformation, and patient-centered care.³⁶ Enhancing pharmacists’ preparedness and institutional accountability in communicating with patients who have hearing disabilities is a crucial step toward achieving these national objectives. Digital health tools, inclusive workflows, and a shift toward cultural competence in pharmacy education can collectively reduce healthcare disparities for people with disabilities.

Finally, the willingness of pharmacists to adopt inclusive practices despite resource constraints suggests a valuable opportunity for improving healthcare services provided for patients with hearing impairments. Building on this intrinsic motivation with structured support, national guidelines, and interprofessional collaboration could lead to sustainable improvements in pharmacy accessibility for hearing-impaired individuals.

Limitations

This study is limited by its sample size and reliance on self-reported data collected via written responses. While the qualitative approach provided depth, the absence of follow-up interviews limited the ability to probe responses further. Additionally, all participants were based in Saudi Arabia, which may affect the generalizability of the findings to other cultural or healthcare contexts. Future research should explore similar themes using interviews or focus groups across broader regions and with patient perspectives included.

Conclusion

Hospital pharmacists in Saudi Arabia reported limited preparedness in communicating with hearing-impaired patients but suggested practical tools and institutional support, highlighting the need for targeted training and inclusive pharmacy policies.

Data Sharing Statement

All data generated and analyzed during this study are included in the manuscript.

Ethical Considerations

This study was conducted in accordance with the ethical principles outlined in the Declaration of Helsinki. Participants were informed about the study's purpose, and consent was implied through submission of the completed survey. Participants' informed consent included permission for publication of anonymized responses and direct quotes. Ethical approval was obtained from Umm Al-Qura University (Approval number HAPO-02-K-012-2025-05-2713).

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Disclosure

The authors declare that they have no competing interests.

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