

THE EXPERIENCE OF DEAF AND HARD-OF-HEARING WOMEN REGARDING ACCESS TO AND QUALITY OF PERINATAL CARE: A SYSTEMATIC REVIEW

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ABSTRACT

Objective: Deaf and hard-of-hearing (DHH) women face significant barriers to accessing and receiving quality perinatal care, including communication challenges, inadequate healthcare provider training, and systemic discrimination. This systematic review synthesizes evidence on the perinatal experiences of DHH women and identifies key obstacles and potential solutions to improve maternal healthcare accessibility. **Methods:** A comprehensive literature search was conducted across PubMed, Google Scholar, and Elsevier Midwifery Journal, yielding 19 studies that met the inclusion criteria. **Results:** The findings indicate that communication barriers, such as the lack of sign language interpreters and limited cultural competence among healthcare providers, result in lower satisfaction, delayed care, and increased risk of adverse maternal outcomes. The absence of structured continuity-of-care models further exacerbates the exclusion of DHH women from critical medical decision-making. Racial disparities also contribute to higher instances of medical neglect, particularly among Black DHH women. Postpartum challenges include difficulties with breastfeeding support and limited access to accessible maternal health education. Advocacy and self-empowerment strategies, such as the use of doulas and assistive technologies, have been shown to improve patient experience. **Conclusions:** This review underscores the need for mandatory healthcare provider training in deaf culture and communication strategies, the implementation of inclusive healthcare policies, and the integration of assistive technologies to enhance perinatal care. Future research should focus on the long-term health outcomes of DHH mothers and the effectiveness of inclusive perinatal care models. **Précis statement:** Deaf and hard-of-hearing women face significant barriers in perinatal care due to communication challenges, healthcare provider training gaps, and systemic discrimination, necessitating inclusive policies and assistive communication strategies to improve maternal outcomes.

Clinical Implications

- Mandatory training in Deaf culture, communication strategies, and the use of assistive technologies should be provided to healthcare providers to improve perinatal care for deaf and hard-of-hearing (DHH) women.
- Hospitals and maternity care centers should implement standardized protocols to document and accommodate patients' preferred communication methods to ensure continuity of care throughout pregnancy, labor, and the postpartum period.
- Sign language interpreters and alternative communication tools, such as real-time captioning and transparent masks for lip-reading, should be integrated into maternity care services to enhance patient-provider communication.
- Culturally competent perinatal care models, including the Continuity of Maternity Care framework, should be adopted to promote informed decision-making and reduce disparities in maternal outcomes for women with DHH.

- Postpartum support services, including breastfeeding education and maternal mental health screenings, should be adapted for accessibility to ensure that DHH mothers receive equitable care and support.

KEYWORDS: Keywords: ‘deaf and hard-of-hearing women’, ‘perinatal care’, ‘communication barriers’, ‘maternal health disparities’, ‘inclusive healthcare’.

INTRODUCTION

Perinatal care is fundamental to public health and ensures the well-being of both mothers and newborns. Women with disabilities, particularly those with deafness and hearing impairment, face unique challenges in accessing healthcare during pregnancy, childbirth, and postpartum care.^[1] While maternal healthcare research has focused on populations without disabilities, the experiences of deaf and hard-of-hearing women (DHH) have not been adequately examined, leaving gaps in inclusive health policies.^[2]

The term "Deaf" (with a capital D) refers to individuals who are completely deaf and identify with Deaf culture, using sign language as their primary communication mode.^[3] DHH individuals may use hearing aids or lose their hearing later in life, affecting their linguistic and social identity.^[4] Limited knowledge of sign language among healthcare professionals and the lack of specialized adaptations pose significant challenges in midwifery care.^[5]

DHH women experience lower satisfaction with perinatal care services than hearing women. Communication barriers lead to misunderstandings and limited participation in decision-making.^[6] The lack of sign language interpreters restricts healthcare access, increasing the risk of pregnancy and childbirth complications.^[7] Parents of deaf children must choose between oral education and special schools for the deaf, impacting their adult lives and language identity.^[8]

Prelingually deaf community members are more adaptable in advocating for their legal rights,^[9] whereas audiometrically deaf individuals might be less informed about support services.^[10] The Deaf community seeks social acceptance in healthcare, education, and employment.^[11] They advocate for sign language recognition and the provision of interpreters, educational programs with subtitles, and technological aid.^[12]

Disability, as a social construct beyond a medical condition, is a recurring theme in literature. Healthcare services often adopt a strictly biomedical perspective, overlooking individuals' active participation.^[12] The lack of a strengths-based approach for women with disabilities leads to inequitable healthcare, reinforcing their exclusion.^[1] The International Confederation of Midwives

recognizes midwives' crucial role in meeting women's needs and reducing healthcare inequalities.^[12]

This systematic review explores DHH women's experiences regarding perinatal care access and quality, focusing on barriers and recommendations for improving their transition to parenthood. This study aims to highlight their needs and propose ways to enhance healthcare service accessibility and quality.

Literature Search Strategy

A systematic literature search was conducted to explore the experiences of DHH women regarding access to and the quality of perinatal care. The search aimed to identify relevant studies that highlight barriers, facilitators, and recommendations for improving perinatal healthcare services for this population.

The literature search was performed across three major scientific databases: PubMed, Google Scholar, and the Midwifery Journal – Elsevier. The search terms included combinations of the following keywords: “deaf”, “pregnancy”, “perinatal”, “deaf and breastfeeding” and “disabled women”. Boolean operators (AND, OR, NOT) were applied to refine the search and retrieve the most relevant articles.

Inclusion and Exclusion Criteria

The inclusion criteria for article selection were as follows: a) Studies addressing challenges in healthcare access for DHH women, with a focus on personalized and high-quality care during pregnancy, childbirth, and the postpartum period; b) Studies discussing the experiences and perceptions of DHH women and the attitudes of healthcare professionals toward this population, particularly factors affecting communication; c) Studies identifying determinants of dissatisfaction among DHH women with perinatal healthcare services, spanning primary, secondary, and tertiary care levels, and their impact on transition to parenthood; and d) Studies offering a holistic perspective on the interactions between DHH women and healthcare providers, assessing their level of knowledge and familiarity with this population's needs.

The exclusion criteria were as follows: a) articles unrelated to the research objective; b) studies lacking full-text availability; c) non-English publications; and d) studies focusing solely on general disability issues

without specific reference to DHH women in the perinatal context.

PRISMA process

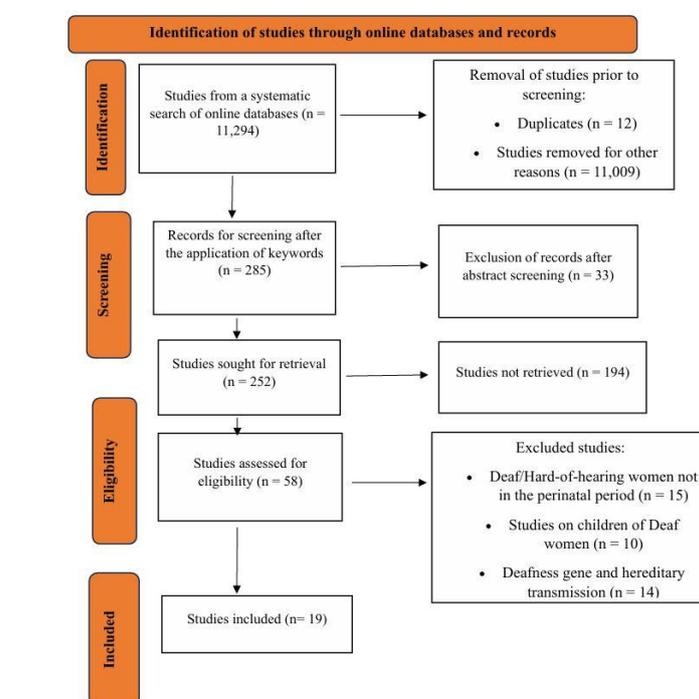
Initially, 11,294 studies were retrieved from database searches. Before screening, 12 duplicate studies were removed, along with 11,009 studies that were excluded for other reasons. After applying keyword filtering, 285 records remained for screening. Of these, 252 studies were retrieved, and 58 were assessed for eligibility. Following the abstract review, 33 studies were excluded, while 194 were not retrieved.

Title and abstract screening and full-text review were conducted by two independent reviewers. Discrepancies were resolved through consensus or by

involving a third reviewer. During the eligibility assessment, additional studies were excluded based on specific criteria. During the eligibility assessment, additional studies were excluded based on specific criteria. Specifically, 15 studies were excluded because they focused on deaf or hard-of-hearing women who were not in the perinatal period, 10 studies were excluded because they examined the children of deaf women, and 14 studies were excluded because they addressed the transmission of the deafness gene to offspring.

After this process, 19 studies were selected for inclusion in the final review.

The flowchart of the study selection process is illustrated in Figure 1.



Quality assessment

Quality assessment was conducted using established critical appraisal tools tailored to each study type. For qualitative studies, the Critical Appraisal Skills Programme (CASP) checklist^[13] was applied to evaluate methodological rigor, relevance, and potential biases. Cross-sectional and observational studies were assessed using the Appraisal Tool for Cross-Sectional Studies (AXIS)^[14], which examines study design clarity, data reliability, and risk of bias. For cohort and case-control studies, the Newcastle-Ottawa Scale (NOS)^[15] was used, which scores studies based on selection, comparability, and outcome assessment. Each tool was chosen to ensure a comprehensive evaluation of methodological quality and potential biases affecting study validity. The

results of the quality assessment are presented in Supplementary Table 1.

Data extraction

Data extraction was performed systematically to ensure accuracy and consistency across studies. Key information from each study was collected, including the following: a) authors and year: identifying the researchers and publication date; b) study design: categorizing studies as qualitative, quantitative, retrospective, cohort, or cross-sectional; c) population: number and characteristics of DHH women included in each study; d) measurement tools: methods used for data collection, such as questionnaires, semi-structured interviews, or official hospital records; and e) main findings: summarizing the primary conclusions of each study, with a focus on barriers to

healthcare, communication difficulties, access to prenatal and postnatal services, and recommendations for improvement.

Data extraction was independently performed by two reviewers to ensure accuracy and reduce bias. Discrepancies were resolved through discussion, and if consensus could not be reached, a third reviewer was consulted.

Data Synthesis and Analysis

The included studies were systematically analyzed to identify common themes related to barriers and facilitators affecting perinatal care for DHH women. The extracted data were categorized into key thematic

areas, including healthcare accessibility, communication barriers, the role of healthcare providers, and psychosocial impacts. Findings were synthesized narratively to provide a comprehensive overview of the evidence base.

The included studies consisted of a total of 19 research articles. The study designs were diverse, with most being qualitative studies (n = 8), followed by quantitative studies (n = 3). Additionally, the dataset included two pilot studies, two retrospective studies, one comparative study, one statistical study, one secondary analysis of a cross-sectional study, and one cohort study. Table 1 summarizes the characteristics of the included studies.

Table 1: Characteristics of the included studies.

Authors	Year	Study design	Population	Measurement tools	Main findings
Adigun & Mngomezulu	2020	Qualitative study	9 deaf women	Semi-structured interviews	Barriers to receiving prenatal care in the second trimester of pregnancy due to communication difficulties with healthcare professionals. Better service in private healthcare facilities
Hubbard et al.	2018	Pilot study	5 deaf women	Semi-structured interviews	Improvement of Quality and Safety for Women through -Presence of sign language interpreters in the hospital -Familiarization of healthcare professionals with Deaf culture -Use of specialized technological applications.
Chin et al.	2013	Qualitative study	15 deaf women	Semi-structured interviews	Increased satisfaction rate regarding breastfeeding support from HCPs proficient in sign language Empowerment of women to overcome challenges in both the short and long term.
Panko et al.	2024	Qualitative study	45 deaf women	Semi-structured interviews	Three main themes were identified: (1) communication accessibility, (2) communication satisfaction, and (3) HCP and team support. Barriers included inconsistent interpreter access, limited health information, and challenges in selecting HCPs. Facilitators included self-advocacy, culturally competent providers, and on-site interpreters.
O'Hearn	2006	Comparative study	23 deaf women, 32 hearing women	Questionnaire	Inequalities in communication quality between the two groups. Insufficient information provided to deaf women about their gynecological health by healthcare professionals. The need for sign language interpreters despite the use of written language and lip-reading.

Mitra et al.	2020	Retrospective study	1,385 deaf/hard-of-hearing women, 1,187 hearing women	Official hospital records	Higher likelihood of chronic conditions and pregnancy/ childbirth complications in deaf/hard-of-hearing women.
Shiff et al.	2017	Retrospective study	645 deaf women, 6,453 hearing women	Official hospital records	Deaf women have a moderate risk of pregnancy, childbirth, and neonatal complications. The absence of sign language interpreters during childbirth preparation in the perinatal period may slightly increase the rate of C-sections.
Gichane et al.	2017	Qualitative study	42 deaf women	Semi-structured interviews	Insufficient information and communication for deaf women from healthcare professionals. Need for the presence of Sign Language Interpreters. Training of healthcare professionals in Deaf culture
Redshaw & Malouf	2013	Quantitative study	197 deaf/hard-of-hearing women	Questionnaire	Participants were satisfied with their prenatal care. Higher likelihood of preterm birth Adequate counseling on infant feeding. However, a lower percentage of women chose to breastfeed.
Collins et al.	2022	Qualitative study	10 women with disabilities	Semi-structured interviews	Focus on the importance of effective communication with healthcare professionals Provision of evidence-based information and respect for their choices. The midwife as an ally in personalized and continuous maternity care
Andrews et al.	2020	Qualitative study	24 women with disabilities	Semi-structured interviews	Several women felt pressured by healthcare professionals to breastfeed, even when it was ultimately not feasible. The lack of familiarity of lactation consultants with deaf culture and/or the absence of sign language interpreters hindered effective breastfeeding counseling.
Mondejar-Jimenez et al.	2009	Statistical study	9.8% with sensory disability women 200 among disabled women	Case report counts	Prejudices and social barriers against people with disabilities in provincial towns Improved access to childbirth care for deaf women due to support from public and private institutions
Gibson et al.	2011	Quantitative study	6 deaf/hard-of-hearing women	Questionnaire	A complex healthcare system for people with disabilities Lack of familiarity among healthcare professionals with deaf culture,

					leading to miscommunication in both directions. Inadequate services in sexual and reproductive health.
Mosher et al.	2017	Secondary analysis of a cross-sectional study	6.5% deaf/hard-of-hearing women among disabled women	Semi-structured interviews	Lack of information on family planning services for women with disabilities Difficulties in accessing healthcare facilities. Disregard for their right to sexual and reproductive health.
Mitra et al.	2024	Cohort study	9,351 deaf/hard-of-hearing women	Official hospital records	Need for more comprehensive care before conception, during the perinatal, and postpartum periods to reduce risk factors for maternal morbidity
James et al.,	2023	Quantitative study	583 deaf/hard-of-hearing women	Questionnaire	The need for healthcare professionals to take measures to improve communication quality and avoid the marginalization of deaf women The presence of an interpreter, use of transparent masks that allow lip-reading, and utilization of specialized technological applications.
Anderson et al.	2020	Pilot study	36 deaf/hard-of-hearing women	Semi-structured interviews Use of EPDS	Inadequate services from medical and psychiatric facilities Higher likelihood of mental health issues among deaf women Negative experiences during the perinatal and postpartum periods due to communication barriers and entrenched perceptions of healthcare professionals regarding their capabilities.
Ratakonda et al.	2024	Qualitative study	22 deaf/hard-of-hearing women who do not sign	Semi-structured interviews	Key barriers in perinatal care were identified, including healthcare communication breakdowns and loss of patient autonomy. Facilitators included accessible communication practices, patient advocacy, and assistive technologies for DHH parents. Recommended increased healthcare provider training and documentation of hearing loss accommodations in medical records.
Helm et al.	2023	Qualitative study	8 Black DHH women	Semi-structured interviews	This study explored the pregnancy and birth experiences of Black DHH women, highlighting unmet communication needs, lack of accessible health information, and racial and disability-related disparities. The facilitators included culturally aware providers, sign language interpreters, and strong familial support.

C-sections – Cesarean sections; DHH – Deaf/hard-of-hearing; EPDS – Edinburgh Postnatal Depression Scale

Communication Barriers and Inadequate Prenatal Care

Prenatal care aims to educate expectant mothers about their health and that of their fetus, while identifying and managing pregnancy-related risks through continuous monitoring.^[2] However, communication barriers can significantly impact the quality of care, particularly for deaf women.

A comparative study^[16] examined the experiences of deaf women in prenatal clinics and revealed widespread dissatisfaction with healthcare services due to poor communication with midwives and doctors. Many faced difficulties scheduling appointments and understanding medical information due to the lack of sign language interpreters. This was further corroborated by Gichane et al.,^[17] who reported that over 50% of DHH women experienced significant communication difficulties with maternity care staff, often relying on a family member for interpretation.

A pilot study by Hubbard et al.^[18] underscored the urgent need for improved healthcare services, particularly in terms of interpreter wait time. Many participants reported prolonged hospital stays while waiting for an interpreter, exacerbating distress during labor. The need for improved communication strategies was also highlighted in a study by James et al.^[19] which emphasized the importance of interpreters, transparent masks for lip-reading, and the use of specialized technological applications to bridge the communication gap. Findings from Ratakonda et al.^[20] add another layer to this issue, highlighting how non-signing difficult-to-hear women experience even greater communication breakdowns during perinatal care. Many participants reported feeling confused and disempowered during labor because healthcare professionals failed to accommodate their specific communication preferences (e.g., reliance on lip-reading, captioning, or written notes). Some also faced delays in receiving care because hospitals mistakenly assumed they needed sign language interpreters rather than alternative communication methods. Additionally, the reliance on telephone communication by medical staff further marginalized these women, as they often required written communication instead.^[20]

Helm et al.^[21] highlighted that Black DHH women experience an even greater lack of accommodations, with many reporting implicit racial bias and provider assumptions that they could tolerate more pain without clear explanations of their medical conditions. Some Black DHH participants reported being unaware that they had serious pregnancy complications, such as preeclampsia, until an emergency intervention was required.

Lack of Staff Training and Cultural Awareness in Caring for Deaf and Hard-of-Hearing Women

A recurring issue in healthcare services for individuals with disabilities is the lack of communication training and cultural awareness among medical staff.^[17] Many healthcare professionals struggle to effectively interact with DHH patients because of their inadequate experience and sensitivity, leading to poor healthcare outcomes. Gibson et al.^[22] found that the lack of familiarity among healthcare professionals with Deaf culture led to widespread miscommunication. Furthermore, Mitra et al.^[23] found that DHH women were more likely to experience chronic conditions and pregnancy complications, which may be exacerbated by healthcare providers' inadequate communication skills. Similarly, Shiff et al.^[24] noted that the absence of sign language interpreters during childbirth preparation in the perinatal period may slightly increase the rate of cesarean sections.

Ratakonda et al.^[20] further support this, revealing that many healthcare professionals default to speaking with hearing family members of DHH patients rather than addressing them directly. This undermines patient autonomy and contributes to disempowerment and marginalization in medical settings. Moreover, medical staff often lack training on how to communicate with non-signing DHH women, making assumptions about their abilities and communication preferences.^[20]

James et al.^[19] found that healthcare providers often failed to modify their communication strategies when interacting with non-ASL-using DHH individuals, such as not writing down key medical information or failing to use available assistive listening devices. Helm et al.^[21] reinforced the need for racially and culturally concordant care, as many Black DHH women felt their concerns were dismissed more frequently than their White counterparts.

Negative Experiences of Deaf Women Due to the Lack of a Continuity of Maternity Care Model

Healthcare professionals often lack specialized training in disabilities, leading to limited choices and inadequate support for deaf women during labor and delivery.^[1] Without a structured care model that ensures consistent and effective communication, many deaf women experience frustration, stress, and exclusion in maternity care settings.

Conversely, women who receive continuity of maternity care report significantly better experiences, as their perinatal needs are consistently addressed. Collins et al.^[12] highlight effective communication as a cornerstone of respectful and dignified maternity care, emphasizing that women should be actively involved

in interactions with healthcare professionals, have their right to make informed decisions respected, and receive individualized, person-centered care. Similarly, Anderson et al.^[25] found that Deaf women were more likely to experience mental health issues due to inadequate medical and psychiatric services, exacerbated by communication barriers and entrenched misconceptions about their capabilities.

Ratakonda et al.^[20] identified that some DHH women did not realize they were about to undergo a C-section until moments before the procedure, due to inadequate communication. This resulted in a lack of informed consent and increased feelings of distress and exclusion from critical medical decisions. Participants expressed that if providers had taken the time to explain the risks and potential outcomes earlier, they would have felt more empowered in their choices.

James et al.^[19] highlighted that many DHH patients faced inconsistent access to interpreters, leading to confusion regarding changes in their care plan during labor. Some had multiple interpreters rotating in and out, causing disruptions. Helm et al.^[21] reported that Black DHH women, in particular, felt that their medical decisions were not adequately explained, with some not realizing that they had undergone certain procedures until after they were performed.

Challenges in the Postnatal Period for Deaf and Hard-of-Hearing Women – Strengthening Maternal Confidence

Despite extensive research on breastfeeding, there is a notable lack of data regarding the experiences of women with disabilities. Although international guidelines promote breastfeeding, women with disabilities, including DHH mothers, often have lower breastfeeding rates. This has led to recent studies exploring the factors influencing breastfeeding success in this population.^[26]

Research by Chin et al.^[27] highlighted that Deaf women face significant barriers to breastfeeding education, as they are unable to access radio advertisements, engage in discussions with hearing mothers, or benefit from other auditory-based information sources. However, healthcare professionals proficient in sign language have contributed to increased satisfaction rates in breastfeeding support.

One of the key challenges identified in this study was the difficulty in communicating with lactation consultants. Many Deaf women reported significant obstacles during consultations, as lactation consultants were unfamiliar with deaf culture and did not know how to arrange for a sign language

interpreter. Andrews et al.^[26] further noted that several women felt pressured by healthcare professionals to breastfeed, even when it was ultimately not feasible owing to communication and accessibility barriers.^[26]

Moreover, Mitra et al.^[28] emphasized the need for more comprehensive care before conception, during the perinatal, and postpartum periods to reduce risk factors for maternal morbidity among Deaf women.

Ratakonda et al.^[20] found that many new mothers were particularly concerned about not being able to hear their baby cry at night. This led to increased reliance on assistive technologies, such as vibrating alarms and flashing-light baby monitors, which significantly improved maternal confidence. The study also emphasized the need for better access to culturally competent lactation consultants, as many DHH women felt unprepared to handle breastfeeding challenges due to insufficient guidance from medical staff.

James et al.^[19] found that DHH mothers often struggle to access postpartum health information because breastfeeding education and postpartum depression resources are not adapted for their communication needs. Helm et al.^[21] found that Black DHH women relied heavily on family members or doulas to navigate the postpartum period because medical professionals often failed to provide tailored support.

Despite these challenges, Redshaw and Malouf ^[1] found that while deaf women were generally satisfied with their prenatal care, they had a higher likelihood of preterm birth and a lower percentage of them opted to breastfeed.

Social and Psychological Impacts of Marginalization

Beyond medical and perinatal care challenges, deaf women experience social barriers that impact their overall well-being. Mondejar-Jimenez et al.^[29] found that deaf women, particularly in provincial towns, faced prejudices and social barriers that limited their access to childbirth care, despite some support from public and private institutions.

Helm et al.^[21] emphasized that the intersectionality of race and disability increases maternal health disparities, leading to higher stress levels and medical distrust among Black DHH women. James et al.^[19] supported these findings by showing that healthcare systems often do not proactively screen for hearing loss, placing the burden on DHH women to self-advocate for their communication needs.

Advocacy and Self-Empowerment Strategies

Beyond medical and perinatal care challenges, deaf women experience social barriers that impact their overall well-being. Mondejar-Jimenez et al.^[29] found that deaf women, particularly in provincial towns, faced prejudices and social barriers that limited their access to childbirth care, despite some support from public and private institutions.

Ratakonda et al.^[20] highlighted that self-advocacy played a crucial role in improving perinatal experiences for women with DHH. Many participants emphasized the importance of communicating their needs early on to ensure that their medical records documented their preferred communication methods. Others relied on doulas as communication advocates, a novel finding that sets this study apart from previous research. Unlike family members, doulas provided unbiased advocacy, ensuring that DHH women remained central to their own perinatal care.

DISCUSSION

The findings of this systematic review highlight the significant barriers DHH women face in accessing perinatal care. Communication difficulties remain the primary challenge, with women experiencing delays due to unavailable sign language interpreters, reliance on written communication, or misinterpretation of medical information.^[16,17,19] Healthcare providers' lack of training compounds these difficulties, as clinicians are often unfamiliar with Deaf culture and fail to accommodate DHH women's communication preferences.^[6,12,30]

The absence of structured continuity of care worsens negative experiences among DHH women, with many feeling excluded from medical decision-making, leading to distress during labor and delivery.^[1,12,20] These care gaps particularly affect marginalized populations, with Black DHH women reporting greater disparities and higher medical neglect rates.^[21]

The postpartum period presents challenges for DHH mothers in terms of breastfeeding and newborn care. Limited access to sign language-trained lactation consultants results in lower breastfeeding rates. The lack of accessible postpartum educational materials and mental health screenings increases psychological distress among these mothers.^[20,26,27]

Despite these challenges, advocacy and self-empowerment strategies have emerged as crucial tools for improving perinatal experiences among women with DHH. Those who proactively communicate their needs, ensure documentation of their preferred communication methods in medical records, and seek the support of doulas or trained

advocates report better outcomes. The use of assistive technologies, such as vibrating alarms and visual monitors for infant care, has also been beneficial in addressing postpartum concerns.^[11,20]

The findings of our systematic review align with those of Adigun et al.^[31] who highlighted significant communication barriers faced by DHH women in perinatal and antenatal care. Both reviews emphasize that limited access to sign language interpreters, inadequate healthcare professional training, and reliance on ineffective communication methods contribute to poor healthcare experiences. While Adigun et al.^[31] focused on antenatal care and maternal outcomes, our review provides a broader perspective, including intrapartum and postpartum experiences, breastfeeding challenges, and psychological impacts. Our review also identifies racial disparities affecting Black DHH women, an aspect not extensively covered by Adigun et al.^[31] While both reviews emphasize policy changes and provider training, our review focuses more on advocacy and self-empowerment strategies for DHH women.

This systematic review emphasizes the urgent need for healthcare systems to improve perinatal care for deaf and hard-of-hearing (DHH) women. Healthcare providers must receive mandatory training on DHH culture, communication strategies, and the use of interpreters and assistive devices. This training should be integrated into medical curricula to ensure equitable care delivery. Hospitals should establish policies for documenting patients' preferred communication methods throughout the perinatal period. Implementing culturally competent care models can enhance patient satisfaction and reduce maternal outcome disparities. Specialized postpartum support, including accessible breastfeeding education and mental health screenings, is essential. The roles of doulas and patient advocates should be expanded to facilitate communication and patient empowerment.^[18,19,32,33]

The experiences of Black DHH women during pregnancy and birth reveal critical communication barriers and compounded disparities linked to both racial and disability-related factors. A qualitative study involving eight Black DHH women highlighted persistent unmet communication needs, including the frequent absence of qualified sign language interpreters and a lack of accessible health information tailored to their linguistic and cultural requirements. These challenges contribute to feelings of exclusion and misunderstanding throughout prenatal and perinatal care. Moreover, racial disparities exacerbate difficulties in accessing comprehensive and culturally sensitive healthcare,

leading to higher incidences of adverse outcomes, such as increased rates of cesarean sections. Facilitators that improved healthcare experiences included culturally aware providers who demonstrated respect for Deaf culture and racial identity, the availability of professional sign language interpreters to bridge communication gaps, and strong familial support networks that advocated for these women during pregnancy and childbirth. These findings underscore the urgent need for healthcare systems to implement culturally competent care models that address the intersectionality of race and disability, ensuring equitable access to quality perinatal services for Black DHH women.^[34] Addressing these barriers through policy changes and education will create a more inclusive healthcare system, improving perinatal experiences for DHH women. Future research should evaluate intervention effectiveness and develop evidence-based guidelines for this population.

The observations of this systematic review regarding the barriers faced by DHH women in perinatal care align with numerous studies documenting similar challenges and implications. Communication breakdowns and a lack of provider knowledge about Deaf culture and American Sign Language (ASL) interpreters are significant obstacles that limit autonomy and increase dissatisfaction among DHH pregnant women.^[20,33] Ineffective communication, including the absence or insufficient use of qualified interpreters and teach-back methods, further hampers care quality and health literacy in this population.^[35]

Socioeconomic and racial disparities, such as those disproportionately affecting Black DHH adults, compound health inequities and perinatal risks, with an increased prevalence of comorbidities, such as diabetes and hypertension, compared to hearing counterparts.^[36] The current literature highlights the necessity for culturally responsive provider training that addresses intersectional identities to reduce these disparities.^[20,36]

Barriers in emergency and perinatal care settings relate directly to health service utilization patterns influenced by communication difficulties and provider unfamiliarity with effective strategies.^[19,37] Proposed solutions include mandatory provider training in Deaf culture, increased use of assistive technologies, structured maternity care models adapted for accessibility needs, and advocacy support, such as doula services, to improve patient empowerment and autonomy.^[20,33]

A critical gap remains in longitudinal, intersectional research considering linguistic diversity, disability levels, and social determinants, including

socioeconomic status and race.^[38] Future studies with larger samples and diverse populations are essential to understand maternal and infant outcomes and develop inclusive perinatal care models. The U.S. Environmental influences on Child Health Outcomes (ECHO) Program harmonizes data from over 60,000 participants across 69 pregnancy cohorts, enabling multi-cohort research that enhances generalizability.^[39] A national study of 1,892 doula-supported adolescent births demonstrated improved health outcomes, highlighting inclusive care strategies for underserved populations.^[40]

Perinatal mental health research in Africa emphasizes the need for mixed-method studies to capture risk factors across populations and promote locally appropriate interventions.^[41] Systematic reviews indicate that psychosocial stress and maternal adverse childhood experiences predict perinatal complications, suggesting that more longitudinal cohorts are needed to understand these pathways.^[42,43]

Artificial intelligence in perinatal research requires large, representative datasets to improve prediction of maternal and infant health indicators while accounting for disparities.^[44] The association of unintended pregnancy with adverse health outcomes in population-based studies shows the need to address social determinants in perinatal care for diverse populations.^[45]

These studies highlight the need for inclusive, interdisciplinary research with diverse cohorts to advance equitable care. Limitations include the scarcity of high-quality studies on DHH women, which affects generalizability. Study heterogeneity complicates comparisons, and cross-sectional designs limit long-term outcome assessments. Excluding non-English studies introduces regional biases, potentially omitting global perspectives. Publication bias may exist, with positive studies being more published. There is insufficient research on how race, socioeconomic status, and hearing impairment affect care. Future research requires larger samples, longitudinal designs, and diverse linguistic and cultural considerations.

This review highlights the barriers DHH women face in accessing perinatal care, including the unavailability of sign language interpreters, lack of provider training, and ineffective communication, which affect prenatal to postpartum care. These barriers reduce medical decision autonomy, increase dissatisfaction, and risk adverse outcomes. Racial and socioeconomic disparities further impact Black DHH women. Solutions include mandatory provider training in Deaf culture, structured care models, and

assistive technologies. Advocacy strategies, such as early communication and doula support, improve care experiences. Future research should develop inclusive care models and assess long-term outcomes for DHH mothers and infants.

Data Availability

The data supporting the findings of this systematic review were derived from previously published studies accessed through PubMed, Google Scholar, and the Elsevier Midwifery Journal. All included studies are publicly available in the respective scientific databases or journals. The extracted data, including study characteristics, populations, and main findings, were systematically collected and analyzed by the authors. Any additional data or materials related to this review can be made available upon reasonable request to the corresponding author, respecting copyright and data sharing policies of the original sources.

CONFLICT OF INTEREST

The authors declare no conflicts of interest or relevant financial relationships.

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