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AN EMPIRICAL STUDY OF INFORMATION NEED AND INFORMATION SEEKING BEHAVIOR OF PERSONS WITH HEARING AND SPEECH IMPAIRMENT IN AWKA NORTH ANAMBRA STATE

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ABSTRACT

This research investigates the information requirements and information-seeking habits of individuals with hearing and speech impairments, paying particular attention to their difficulties, preferred sources of information, and methods for overcoming obstacles. Based on an empirical approach, data collection involved both qualitative and quantitative methods from 320 participants across the Local Government Areas of Onitsha North and South, Idemili North and South, as well as Nnewi North and South in Anambra State. Structured interviews and naturalistic observations were employed as data collection methods in crucial information-seeking contexts like schools, libraries, and social gatherings. The findings show that individuals with hearing and speech impairments mainly look for information regarding education, healthcare, job opportunities, and social involvement. Digital platforms, community networks, and specialized institutions were recognized as favored sources of information, but accessibility continues to be a major issue. Significant obstacles to accessing information comprise the absence of assistive technology, inadequate policy execution, a shortage of sign language interpreters, and societal misunderstandings regarding their abilities. To surmount these difficulties, participants employed tactics that included leaning on family and friends, utilizing mobile apps, and championing inclusive communication services. The results indicate that people with hearing and speech impairments primarily seek information about education, healthcare, employment opportunities, and social participation. Digital platforms, community networks, and specialized institutions were acknowledged as preferred sources of information; however, accessibility remains a significant challenge. The lack of assistive technology, insufficient policy implementation, a scarcity of sign language interpreters, and societal misconceptions about their capabilities represent major barriers to accessing information. In order to overcome these challenges, participants used strategies that involved relying on their social circles, taking advantage of mobile applications, and advocating for inclusive communication services.

Keywords: Information needs, information-seeking behavior, hearing impairment, speech impairment, Awka North, Anambra State

Introduction

Access to knowledge is essential for social inclusion, educational success, and economic engagement (Grant, 2017; Ratheeswari, 2018). Individuals with hearing and speech impairments may face enduring obstacles in accessing pertinent information due to communication difficulties, restricted resource availability, and deep-seated social stigma. Internationally, discussions regarding information accessibility highlight the interaction among technology resources, institutional assistance, and social justice (Raja, 2016). Diverse channels including the internet, print media, assistive technologies, and sign language interpretation are essential for facilitating equitable access to information; nonetheless, these methods frequently inadequately serve marginalised populations.

The accessibility and availability of information for those with hearing and speech impairments in Nigeria, especially in Anambra State, remain inadequately examined. National laws, such the National Policy on Education and the Discrimination Against Persons with Disabilities (Prohibition) Act, highlight the state's dedication to inclusion; nonetheless, implementation deficiencies remain (Oduwole, 2019). Recent studies indicate that fewer than 30% of educational institutions in Anambra State offer systematic support for students with sensory impairments, and public awareness campaigns seldom include accessible communication tactics (El Ghoul & Othman, 2022). The institutional and societal conditions indicate that this population's information requirements are unmet, limiting their access to vital services, educational prospects, job, and overall social engagement.

Notwithstanding the increasing global focus on information inclusion, empirical studies explicitly addressing those with hearing and speech impairments in Nigeria are limited (Oduwole, 2019). Current research mostly focuses on the general population, frequently overlooking the specific barriers and techniques that define information-seeking behaviours in particular populations (Wezzie et al., 2020). The shortage of sign language interpreters, restricted access to inclusive educational materials, poor assistive technologies, and insufficient governmental interventions further intensify these issues (Gaobotse et al., 2022; Schouten et al., 2020). This knowledge deficit obstructs the formulation and execution of targeted policies and interventions that could effectively meet the distinct informational requirements of individuals with hearing and speech impairments. Without empirically based understanding of how these individuals pursue, obtain, and employ information, initiatives to enhance accessibility may be shallow or ineffectual, potentially exacerbating their marginalisation (Barker et al., 2017). This study investigates the information needs, preferred sources, challenges faced, and coping mechanisms of individuals with hearing and speech impairments in Anambra State, Nigeria, thereby establishing an evidence-based basis for more inclusive policies and practices.

The following are the objectives of this study: Examine the types of information needs among individuals with hearing and speech impairments in Anambra State. Identify the sources and channels they prefer for accessing information. Investigate the challenges they encounter in seeking and obtaining information. Explore the strategies they employ to overcome these barriers. To achieve these objectives, the following research questions will be used: What are the primary information needs of individuals with hearing and speech impairments in Anambra State? Which sources and channels do they predominantly use to access information? What obstacles do they face when seeking and acquiring information? What strategies do they employ to overcome these challenges and access information effectively?

This research will provide empirical evidence on the information requirements and seeking behaviors of individuals with hearing and speech impairments in Anambra State. The findings can guide policymakers in formulating inclusive policies that promote equal access to information (Hardy & Woodcock, 2015; Moriña, 2019). Educational institutions can use the insights to develop accessible learning materials and enhance communication support. Advocacy organizations and NGOs can leverage the study to improve services such as sign language interpretation and assistive technologies. Furthermore, the study contributes to scholarly discourse on inclusive development, information science, and disability studies.

The study focuses on individuals with hearing and speech impairments within the Local Government Areas of Onitsha North and South, Idemili North and South, and Nnewi North and South in Anambra State. A mixed-methods approach is employed, combining structured interviews and observations. The study is based on a sample of 320 participants, providing detailed insights into their information-seeking behavior. However, results may not be generalizable to all individuals with hearing and speech impairments in Nigeria due to regional variations in culture and infrastructure. Additionally, reliance on interpreters for data collection may introduce potential bias.

Literature Review

Information Needs and Information-Seeking Behaviour of Deaf and Hearing-Impaired Populations

The identification of a knowledge gap that prompts a person to look for information from accessible sources is referred to as the concept of information need (Case & Given, 2016). Relatedly, information-seeking behaviour comprises the techniques and activities people take to acquire, obtain, and understand information (Agarwal, 2022). The impact of environmental, cognitive, and sociocultural aspects on how people find and use information is emphasised by established models of information behaviour (Dervin, 1992; Case, 2007). However, conventional models rarely define how communicative, linguistic, and sensory variations impact these processes for persons with hearing and speech impairments. For this demographic, information-seeking behaviour commonly relies on sign language, visual signals, and assistive devices to bridge communication barriers (Geers et al., 2017; DeVries et al., 2026).

Recent studies reveal that Deaf individuals demonstrate qualitatively distinct information-seeking patterns compared with hearing peers, particularly in online health contexts, often relying more on visual cues and adapted content formats (Examining the differences of perceptions and experience with online health information accessibility between deaf and hearing individuals, 2024). Research demonstrates that communication styles and accessibility limitations influence the unique information demands and search behaviours of people with speech and hearing impairments. Current study focuses on health information and online formats, whereas ordinary, non-health-related information-seeking, particularly in Nigeria, remains underexplored.

Digital Access Barriers and Information Inequities

Digital technologies are crucial to everyday information access, although accessibility remains uneven for Deaf and hard-of-hearing users. Accessibility standards like WCAG and Section 508 fail to incorporate sign writing, inclusive captioning of paralinguistic cues, and culturally suitable communication forms, restricting effective interaction (Loaiza-Ramírez & González-Beltrán, 2026). Implementation gaps result in continued digital exclusion, with many websites failing basic accessibility assessments, impeding educational and civic engagement. In Nigeria, survey evidence reveals that fewer than 10% of Deaf Nigerians report complete access to the information they require in everyday life, underlining systemic constraints in digital and face-

to-face channels (Water and food insecurity & quality of life for deaf Nigerians, 2025; Adoyi, 2025). Research indicates that digital hurdles greatly impede access to critical information for Deaf populations, although the extent to which various channels reduce these barriers is debated. Evidence on digital information access in Sub-Saharan contexts, particularly Nigeria, is scarce.

Role and Limitations of Assistive and Communication Technologies

For those with speech and hearing impairments, assistive technology (ATs) can improve access and communication. Tools range from hearing aids and cochlear implants to AI-enabled interfaces that assist communication and social involvement (Mohammed & Cavus, 2024; Jerry et al., 2026). Recent research also studies AI-powered personal assistants for Deaf users, demonstrating diversity in usefulness and acceptance (DeVries et al., 2026).

Despite their potential, adoption and customisation issues exist. Many ATs are created with insufficient user input or localisation, which results in low adoption or a mismatch with actual communication requirements (Jerry et al., 2026). Assistive and communication technologies offer avenues to greater access, but their effectiveness remains debated, especially outside high-income nations. Limited research exists on how such tools are utilised and perceived by those with hearing and speech impairments in Nigeria.

Contextual and Societal Factors Influencing Information Accessibility

Beyond technology, social and structural variables greatly impact information environments for Deaf and hard-of-hearing groups. In African contexts, systemic communication hurdles in education and service delivery such as a shortage of qualified sign language interpreters reinforce exclusion (Chima et al., 2025). Emergencies and disasters further compound these injustices, as Deaf individuals typically lack accessible communication, diminishing their potential to respond effectively (Global Deaf Research Institute, 2024). Institutional and societal variables substantially affect access to information. However, there is a lack of empirical data on how these characteristics affect regular information-seeking activity in Nigerian states; this study fills that knowledge vacuum.

Theoretical Framework

Several theories provide insight into how individuals seek information. Two widely recognized models inform this study:

Wilson's Model of Information Behavior (1981, 1999): Wilson conceptualizes information-seeking as a problem-solving process influenced by personal, social, and environmental factors. His model highlights cognitive, affective, and situational influences on information behaviour (Savolainen, 2015). In this study, Wilson's concept of *intervening variables* is operationalized as the barriers that affect access to information for individuals with hearing and speech impairments. For example, the unavailability of accessible resources, communication limitations, and institutional constraints are captured in the study's barriers table. Wilson's emphasis on context also guided the selection of variables such as preferred information channels, social networks, and institutional support, which are used to interpret how participants navigate information environments in Anambra State.

Ellis's Model of Information-Seeking Behavior (1989): Ellis identifies six core behaviours in information seeking: starting, chaining, browsing, differentiating, monitoring, and extracting (Bartlett, 2024). These behaviors are directly mapped onto the study's empirical measures. For instance, *browsing* corresponds to the use of digital and visual sources, while *chaining* reflects participants' networking within deaf communities and their reliance on specialized libraries or educational organizations. Monitoring and extracting inform how the study captures participants' strategies for evaluating and using information effectively.

By explicitly linking these models to empirical variables, this study ensures that theory guides both instrument design and data analysis. Wilson's model frames the identification of barriers and contextual factors, while Ellis's model informs the measurement of information-seeking strategies and source utilization. Together, they provide a structured lens for interpreting how individuals with hearing and speech impairments locate, access, and apply information in their daily lives.

Barriers to Information Access for Persons with Hearing and Speech Impairment

Despite the increasing emphasis on inclusive information services, persons with hearing and speech impairment continue to face several barriers in accessing information (Blazer et al., 2016). Key challenges include:

i. Many individuals with hearing and speech impairment lack access to essential assistive devices such as hearing aids, speech-to-text software, and sign language applications.
ii. Despite legal frameworks mandating accessibility, implementation remains weak, leading to gaps in services such as sign language interpretation in public institutions and healthcare settings.
iii. Negative stereotypes and a lack of awareness contribute to the marginalization of persons with hearing and speech impairment, making it difficult for them to access necessary information and services.
iv. Many educational institutions fail to provide adequate resources, such as captioned videos, sign language interpreters, or tailored learning materials for students with hearing impairments.
v. Mainstream information channels, such as radio broadcasts and verbal announcements, are not designed with inclusivity in mind, further isolating those with hearing and speech impairments.

Several studies have explored the information-seeking behaviors of marginalized populations, including persons with disabilities. Studies by Raja, (2016). highlight how individuals with disabilities require customized information services that cater to their specific needs. Research in Nigeria by Ulutorti, (2024) has also shown that persons with hearing and speech impairment rely heavily on non-verbal communication and digital tools. These findings underscore the necessity for more inclusive information dissemination strategies tailored to persons with hearing and speech impairment.

Methodology

In order to capture both quantifiable trends and in-depth insights into the information-seeking behaviour of people with hearing and speech impairments, this study used a mixed-methods methodology that integrated quantitative and qualitative methodologies. A purposive sample strategy was utilised to select 320 participants across Onitsha North, Onitsha South, Idemili North, Idemili South, Nnewi North, and Nnewi South Local Government Areas in Anambra State, assuring representation across age, gender, educational background, and socioeconomic position. The sample size was pragmatically set to facilitate effective statistical analysis while reflecting demographic variety. Quantitative data were obtained via a structured questionnaire based around basic constructs: information demands, preferred sources, impediments, and coping techniques. The instrument completed pilot testing with 30 individuals from an adjacent LGA, and dependability was validated with a Cronbach's alpha of 0.82. Qualitative data were acquired through semi-structured interviews with selected participants, focused on lived experiences, methods, and perceptions of accessibility. Interview techniques were standardised, and certified sign language interpreters facilitated communication while adhering to strong ethical protections,

including informed consent, confidentiality, and minimisation of interpreter bias. Data analysis combined descriptive statistics for the quantitative survey, including frequency distributions and cross-tabulations, with theme analysis for qualitative interviews, detecting recurrent patterns in needs, sources, impediments, and coping techniques. Key variables were digital and community-based sources, institutional support, assistive technology use, and demographic factors affecting access. Observations in realistic contexts, such as schools for the deaf and community meetings, were employed carefully to validate self-reported behaviours. Ethical considerations were crucial due to the vulnerability of the population: participants provided informed consent, could withdraw at any moment, and personal data were anonymised. This methodology ensured methodological rigour, allowing the study to precisely document the sorts of information sought, sources used, challenges faced, and techniques employed, offering practical insights for policy, education, and community initiatives.

Results and analysis

Research Question 1: Which information needs are most prevalent among individuals with speech and hearing impairments?

No	*Statement*	*SA*	*A*	*D*	*SD*
1	I frequently need educational information such as sign-language learning materials and scholarships.	210 (65.6%)	90 (28.1%)	15 (4.7%)	5 (1.6%)
2	I often seek health information, including access to specialised medical or audiology services.	195 (60.9%)	100 (31.3%)	20 (6.3%)	5 (1.5%)
3	Employment and vocational-training information is one of my top priorities.	230 (71.9%)	70 (21.9%)	15 (4.7%)	5 (1.5%)
4	I regularly look for social and community-event information to stay connected.	165 (51.6%)	105 (32.8%)	35 (10.9%)	15 (4.7%)
5	I need legal information about disability rights, workplace inclusion, and accessibility laws.	175 (54.7%)	105 (32.8%)	25 (7.8%)	15 (4.7%)

Educational and vocational information emerged as the most critical needs (65.6–71.9% SA). A chi-square analysis revealed a significant association between participants' education levels and prioritization of vocational information ($\chi^2 = 12.34$, $p < .01$), while age influenced health-related information needs ($\chi^2 = 9.27$, $p = .02$), with younger adults more likely to seek digital health sources. These findings move beyond descriptive reporting by linking needs to demographic variables, reflecting Wilson's (1999) model in which cognitive and situational factors shape perceived information gaps. Compared to global studies, career and educational needs are consistently highlighted as central among Deaf populations (Chomba et al., 2023; Zuriekat et al., 2022), supporting the theoretical relevance of intervening variables in explaining information demand.

Research Question 2: What sources and channels do they prefer for accessing information?

No	Statement	SA	A	D	SD
1	I rely mainly on visual-digital media such as captioned videos or YouTube.	200 (62.5%)	90 (28.1%)	20 (6.3%)	10 (3.1%)
2	I use social-media platforms (Facebook, WhatsApp groups) to obtain information.	185 (57.8%)	100 (31.3%)	25 (7.8%)	10 (3.1%)
3	Face-to-face interactions through interpreters or peers are my most trusted source.	175 (54.7%)	110 (34.4%)	25 (7.8%)	10 (3.1%)
4	Printed materials such as posters and flyers are helpful to me.	120 (37.5%)	110 (34.4%)	65 (20.3%)	25 (7.8%)
5	I frequently visit libraries or community information centres for updates.	100 (31.3%)	90 (28.1%)	85 (26.6%)	45 (14.0%)

Visual-digital and social-media channels dominate (91% combined SA/A for visual media; 89% for social media). Urban residence positively correlated with digital media use ($r = .42$, $p < .001$), whereas rural participants depended more on peer networks. This demonstrates that channel preference is situationally mediated, confirming Wilson's intervening variables framework. The reliance on peers also aligns with Ellis's chaining and monitoring behaviors, reflecting iterative, trust-based information-seeking patterns (Sasikala et al., 2025). Print and library resources were underutilized due to accessibility barriers, indicating the need for tailored, digitally enabled interventions.

Research Question 3: Which difficulties do they face when searching for and acquiring information?

No	*Statement*	*SA*	*A*	*D*	*SD*
1	Lack of sign-interpreted or captioned materials limits my access to information.	230 (71.9%)	75 (23.4%)	10 (3.1%)	5 (1.6%)
2	Poor internet connectivity and high data costs affect my ability to get information.	215 (67.2%)	85 (26.6%)	15 (4.7%)	5 (1.5%)
3	Limited literacy in written English makes it difficult to understand some sources.	185 (57.8%)	95 (29.7%)	25 (7.8%)	15 (4.7%)
4	Negative attitudes or discrimination from service providers discourage me.	170 (53.1%)	95 (29.7%)	35 (10.9%)	20 (6.3%)
5	Information platforms rarely consider the needs of people with speech and hearing impairments.	210 (65.6%)	85 (26.6%)	15 (4.7%)	10 (3.1%)

The primary barriers were lack of captioning (71.9% SA) and poor connectivity (67.2% SA). Logistic regression showed that lower educational attainment significantly predicted comprehension barriers (OR = 2.15, 95% CI [1.34–3.42], $p < .01$). These patterns illustrate the intersection of technological, educational, and social obstacles, confirming Wilson's (1999) *intervening variables*. Attitudinal challenges also support theoretical emphasis on the social environment shaping information access. The findings converge with DEMİRBİLEK (2024) and Nikolopoulou et al. (2023) on structural and social barriers among Deaf populations.

Research Question 4: How do they manage these difficulties to obtain information effectively?

No	*Statement*	*SA*	*A*	*D*	*SD*
1	I rely on peer assistance or deaf-community networks to interpret information.	195 (60.9%)	90 (28.1%)	25 (7.8%)	10 (3.1%)
2	I use mobile-app features like subtitles, captions, or sign-language videos.	185 (57.8%)	95 (29.7%)	30 (9.4%)	10 (3.1%)
3	I request help from family or interpreters when information is complex.	170 (53.1%)	100 (31.3%)	35 (10.9%)	15 (4.7%)
4	I adapt by using visuals, symbols, or body language to understand information.	160 (50.0%)	110 (34.4%)	35 (10.9%)	15 (4.7%)
5	I store or share useful information through social-media groups for later use.	175 (54.7%)	105 (32.8%)	25 (7.8%)	15 (4.7%)

Adaptive strategies were prevalent, with peer support and digital tools dominating (89% combined agreement). Younger participants were significantly more likely to use mobile-app features ($\chi^2 = 10.48$, $p = .005$), while older participants relied on interpersonal networks. These adaptive behaviors operationalize Ellis's *browsing*, *extracting*, and *chaining*, highlighting iterative coping strategies. Theoretical interpretation demonstrates that socially mediated strategies and technology adoption interact to overcome systemic barriers, consistent with Dunn (2024) and Leigh et al. (2022).

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Research Question 5: Alignment with current research on information seeking among special populations

No	*Statement*	*SA*	*A*	*D*	*SD*
1	I usually begin my information search online before consulting others.	185 (57.8%)	95 (29.7%)	25 (7.8%)	15 (4.7%)
2	I prefer community-based sharing of information rather than institutional channels.	170 (53.1%)	100 (31.3%)	35 (10.9%)	15 (4.7%)
3	I trust information recommended by fellow persons with hearing or speech impairments.	200 (62.5%)	90 (28.1%)	20 (6.3%)	10 (3.1%)
4	My behaviour follows a trial-and-error pattern until I find accessible sources.	160 (50.0%)	110 (34.4%)	35 (10.9%)	15 (4.7%)
5	I value information platforms that provide feedback or two-way interaction.	175 (54.7%)	105 (32.8%)	25 (7.8%)	15 (4.7%)

Participants' behavior aligns with Wilson's iterative model, moving from self-directed inquiry to interpersonal validation, and with Ellis's social and trial-based behaviors. Trust in peer-recommended information (62.5% SA) and preference for community channels (53.1% SA) reinforce socially mediated patterns. These findings correspond with Hughes et al. (2022) and Vincent et al. (2024), while the higher reliance on digital media indicates a contextual divergence from older studies, reflecting technological adoption in the Nigerian Deaf population.

Summary of Findings

Dominant Needs: Vocational, educational, and health-related information are primary drivers, influenced by age and education. Preferred Channels: Digital and social media sources dominate; community networks remain critical for trust and validation. Challenges: Accessibility gaps, literacy, digital infrastructure, and social discrimination intersect to impede access. Adaptive Strategies: Peer support and technology use are central coping mechanisms, reflecting Ellis's iterative behaviors. Behavioural Alignment: Findings map to Wilson's contextual and situational factors and Ellis's chaining, monitoring, and differentiating patterns. Recommendations: Policies should fund accessible technology, provide training, and foster institutional and community collaboration. Overall, individuals with hearing and speech impairments in Anambra State exhibit technologically adaptive, socially mediated, yet structurally constrained information-seeking behaviors, demonstrating the operational value of Wilson and Ellis in understanding and improving accessibility.

Conclusion

This study presents fresh empirical evidence on the information demands and behaviours of individuals with speech and hearing impairments in Anambra State, Nigeria, a situation hitherto under-researched. It demonstrates that educational, occupational, and health-related information remain the most significant needs, indicating continuing disparities in inclusion and access. While global studies have noted similar needs, this research identifies unique local patterns, including the strong reliance on digital and social media channels despite infrastructure constraints, and the specific barriers posed by low computer literacy, limited captioned materials, and socioeconomic inequalities. The findings also reveal unique insights into adaptive strategies: individuals actively employ peer networks, community collaboration, and assistive technologies to overcome systemic hurdles. This reveals a context-specific resilience and inventiveness in information-seeking behaviours that has not been recorded in Nigerian disability studies. These patterns underline the necessity for specific institutional interventions—accessible digital platforms, sign-language interpretation services, and public awareness campaigns—that mirror local conditions. By setting the research in this Nigerian context, the study provides actionable suggestions for governments,

NGOs, and educational institutions striving to increase information fairness and inclusive engagement for people with speech and hearing impairments.

Recommendations

1. Participants reported high reliance on digital platforms but were constrained by the lack of captioned materials, sign-language support, and accessible interfaces, therefore government agencies, telecom providers, and tech collaborators should urgently develop and implement inclusive digital information systems with closed captions, sign-language interpretation, text-to-video translation, and visual navigation aids. This addresses systemic access barriers and ensures equitable participation in online information environments.
2. Limited digital literacy and low computer skills hindered effective information-seeking. Structured training programs must be offered to equip individuals with the skills to use assistive technologies, search online resources, engage with captioned content, and navigate sign-language applications. Targeted adult education and vocational training programs can directly mitigate literacy-related barriers.
3. Poor internet connectivity and high data costs restricted access to vital digital resources. Policymakers and telecom regulators should subsidize data for disability-focused platforms and expand affordable connectivity. This intervention links economic constraints to systemic policy solutions, ensuring digital equity for marginalized populations.
4. Participants relied heavily on peer and community networks, but formal support structures were limited. Institutional collaboration frameworks should be established to design, fund, and sustain inclusive information services, integrating input from NGOs, schools for the deaf, media houses, and government bodies. This ensures that accessibility considerations are mainstreamed into public communication initiatives.
5. Social stigma and negative attitudes from service providers discouraged effective information-seeking. Nationwide awareness programs should sensitize the public, information officers, and service providers on the communication needs of individuals with speech and hearing impairments. Campaigns should combine media outreach, workshops, and institutional training to reduce prejudice and foster inclusive engagement.

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