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From Policy to Practice: A Systematic Review of Inclusive Library Services for Students with Disabilities

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Abstract

This systematic review explores the accessibility and inclusivity of library services for users with disabilities, particularly within academic and public library settings. Employing the PRISMA framework, the study analyzed 76 peer-reviewed publications from 1990 to 2024, sourced from databases such as LISTA, Wiley, PubMed, Scopus, Web of Science, Emerald Insight, and Google Scholar. The findings highlight significant challenges, including infrastructural barriers, lack of assistive technologies, inadequate staff training, and limited policy implementation. While notable progress has been made globally through inclusive service units, digital accessibility initiatives, and assistive technology integration, gaps persist—especially in rural and under-resourced regions. The development clearly highlights the urgent need to adopt the Social Model of Disability, emphasizing a shift from focusing on individual impairments to addressing systemic and institutional barriers. By strengthening research, investing in adaptive technologies, and implementing inclusive policies, libraries can create equitable environments that empower users of all abilities.

Keywords: Library Accessibility, Inclusive Library Services, Assistive Technology, Disabled Users, Academic Libraries, Social Model of Disability, User-Centered Design, and Systematic Review.

1. Introduction

Libraries and information centers play a vital role in educational institutions by providing essential services that support learning and research (Hallberg & Sipos-Zackrisson, 2010). In today's knowledge-driven society, access to information is widely recognized as a fundamental right (Kishore, 1999). To realize this ideal, Dr. S. R. Ranganathan, a pioneer in library science, conceptualized the library as a trinity of books, staff, and users—working in harmony to ensure seamless access to information and knowledge for all (Ranganathan, 1931). In line with this vision, the past two decades have witnessed significant advancements in library accessibility services, with a growing focus on assistive technologies, inclusive infrastructure, digital access, and staff training (Yadav & and Singh, 2022).

According to the Rights of Persons with Disabilities Act of 2016, "a person with a disability is defined as someone who has long-term physical, mental, intellectual, or sensory impairment, which, in interaction with various barriers, may hinder their full and effective participation in society on an equal basis with others" (*Persons with Disabilities Welfare Department Maharashtra \textbar India*, n.d.). Many countries have implemented policies that promote inclusive accessibility and education in an effort to achieve equality across all sectors (Eleweke & and Rodda, 2002). However, in developing nations, libraries often face challenges in adequately addressing the diverse needs of persons with disabilities (PwDs) due to the absence of comprehensive frameworks and service models (Agbo et al., 2024) (Gul & Khowaja, 2020). This shortfall has led to significant gaps in service delivery, hindering effective communication and interaction between libraries and PwD users and ultimately limiting their ability to fully access and utilize library resources (Kulikauskienė & Liukinevičienė, 2020) (Arlitsch, 2018).
To address these challenges, the United Nations Convention on the Rights of Persons with Disabilities (CRPD), adopted in 2006, emphasizes the importance of recognizing persons with disabilities (PwDs) as individuals with rights, autonomy, and the ability to actively participate in decision-making processes. The convention advocates for free and informed choices, enabling PwDs to engage fully in all aspects of society. Importantly, the CRPD upholds the protection and promotion of the rights of persons with disabilities across all sectors, including education and access to information (UNO, 2006). In this context, fostering inclusion and ensuring equitable access to knowledge for all learners must become a global imperative for library and information centers (Memon & Memon, 2025). The purpose of this research is to explore various aspects of accessibility initiatives in libraries and information centers, with a particular focus on advancements in services for persons with disabilities, by using the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) framework for systematic review (*PRISMA Statement*, n.d.-a).

2. Methodology

2.1. Search Terms

The study adopted the **PRISMA** (*PRISMA Statement*, n.d.-b) (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) framework to ensure a transparent, rigorous, and systematic review process. Scholarly literature was retrieved from prominent academic databases, including LISTA, Wiley, PubMed, Science Direct, IEEE Xplore, Emerald Insight, Taylor & Francis, and Google Scholar, focusing on articles related to library services for disabled users published over the past three decades.

The researcher conducted a thorough search of academic databases to find relevant literature on library services for users with disabilities. Using the Boolean Logic (AND, OR, NOT) (Zohuri & Moghaddam, 2017) and a combination of keywords such as "Library," "Disabled User," "Visually Challenged," and "Assistive Technology," the search employed Boolean operators to comprehensively retrieve related studies.

2.2. Inclusion Criteria

To ensure the quality and relevance of the review, only English-language publications from 1990 to 2024 were considered. The selected studies specifically addressed accessibility in libraries for disabled users, including Public libraries, college libraries, and university libraries. Eligible sources included peer-reviewed articles, conference papers, government reports, and white papers. The content focused on areas such as accessibility standards, assistive

technologies, user experiences, inclusive practices, policy implementation, and challenges in academic library settings.

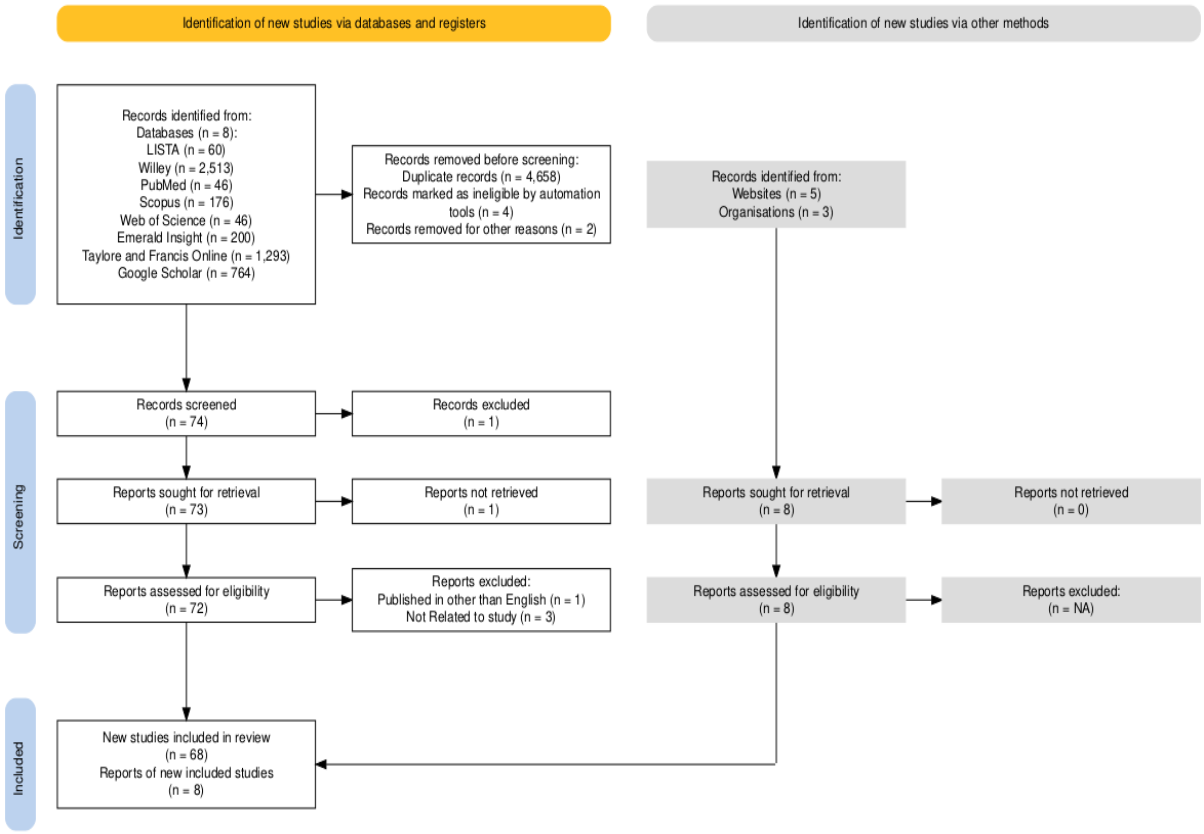
2.4. Exclusion Criteria

Only peer-reviewed publications in English were considered; non-English sources, blogs, and unpublished dissertations were excluded to maintain scholarly rigor. Additionally, studies with inadequate methodological details, lack of empirical evidence, or duplicate content were removed from the final analysis.

2.5. Results and Discussion

A total of 76 publications were identified and analyzed for this systematic review, offering a comprehensive perspective on the status, challenges, and developments related to accessibility in higher education libraries for disabled users.

2.6. Flowchart (Haddaway et al., 2022)



3. Assistive Technology in Libraries: A Pathway to Inclusion

Assistive technology (AT) is critical in promoting inclusion and participation, especially among people with disabilities (PwDs), the elderly, and those suffering from noncommunicable diseases (*Assistive Technology*, n.d.). According to the Assistive Technology Industry Association (ATIA), "Assistive technology encompasses products, equipment, and systems that enhance learning, working, and daily living for persons with disabilities" (ATiA, 2015). These technologies help people by improving their cognition,

communication, hearing, self-care, and vision, thereby increasing their quality of life and promoting greater independence and social inclusion (Galyon et al., 2023). To meet the requirements of people with disabilities, modern libraries have integrated a variety of assistive technologies. Among the most extensively used screen reader systems are NVDA (Non-Visual Desktop Access) by NV Access for Microsoft Windows, JAWS (Job Access with Speech), OpenBook, ZoomText, Kurzweil, VoiceOver, BRELTTY, ORCA, and WebAnywhere (Sutar & Hande, 2021).

Research on public libraries in South Africa and university libraries in the United Kingdom and the United States reveals distinct ways to integrate assistive technologies. Academic libraries in the US and UK have made tremendous progress in adopting ATs, particularly JAWS software, with many institutions explicitly proclaiming their dedication to disability support in their mission statements (Alabi & Mutula, 2020). Scholars advocate for a universal design approach in academic libraries, ensuring that AT benefits all users while reducing the need for retrofitting (Burgstahler, 2020). However, challenges persist, particularly for rural universities facing financial and infrastructural constraints, underscoring a significant research gap in AT adoption. Moreover, compared to academic libraries, public libraries remain relatively underexplored in terms of AT implementation. In India, university libraries have begun integrating assistive technologies, such as screen readers, magnifiers, and Braille printers (Rani & Khan, 2022). However, these technologies primarily cater to visually impaired students, leaving other disabled groups, such as those with hearing or cognitive impairments, underserved (Yadav & Singh, 2022; Hersh & Mouroutsou, 2015).

University libraries in metropolitan areas offer better digital accessibility for disabled students than those in rural regions (Chaurasia & Singh, 2022). Additionally, many libraries have not assessed whether these technologies are being optimally utilized by students or whether library staff possess adequate training to support their usage. Despite notable progress, significant gaps remain in providing comprehensive AT services, particularly for users with cognitive and hearing impairments (Rastogi et al., 2021; Mulliken, 2017).

4. Enhancing Digital Access in Libraries

Digital accessibility in libraries plays a critical role in ensuring that persons with disabilities (PwDs) can effectively access, navigate, and utilize digital resources without facing barriers (Botelho, 2021). In this regard, developed nations have made considerable progress by largely complying with the Web Content Accessibility Guidelines (WCAG). However, in contrast, many developing and underdeveloped regions continue to lag, where gaps in implementation and limited awareness hinder meaningful progress (Billingham, 2014) (Tripathi & Shukla, 2014). Interestingly, studies indicate that the accessibility of library websites is not always tied to financial resources—library budgets do not directly influence the accessibility of digital platforms. Instead, it is the prioritization of inclusive design and institutional commitment that makes the real difference (Huang, 1990).

This lack of accessibility is especially problematic for users with print disabilities, who often find traditional library interfaces difficult to navigate. As a result, many of them turn to alternative platforms like Google and Google Scholar, which offer more user-friendly and accessible environments. Unfortunately, despite global efforts to promote inclusion, a large number of academic and public library websites still fail to comply with accessibility standards, continuing to create barriers for disabled users (Yi & Kang, 2012).

To effectively address these challenges, libraries must align their digital practices with international frameworks such as the Marrakesh Treaty and the Americans with Disabilities Act (ADA), both of which emphasize the need for accessible content and equal opportunities for participation. Alongside policy alignment, fostering digital literacy among users and staff and embracing inclusive design principles are also crucial steps toward equitable access (Beyene, 2018). Ultimately, by integrating digital technologies and rigorously adhering to accessibility standards, libraries can not only bridge the digital divide but also create a genuinely inclusive and empowering learning environment for all (Qaadan et al., 2024).

5. Physical Accessibility and Infrastructure

Libraries serve as inclusive spaces for learning, access to knowledge, and community engagement. However, for persons with disabilities (PwDs), physical access to library facilities is fundamental for equitable participation. In many regions, especially developing countries, infrastructural limitations significantly impede this access, highlighting a critical gap in service delivery (Nazim, 2021a) (Rakshikar, 2023) These deficiencies include the absence of ramps, elevators, automatic doors, and accessible restrooms, making navigation difficult for individuals with mobility impairments (Pope & Creed-Dikeogu, 2022). The positioning of bookshelves, reading tables, and computer stations at inaccessible heights further restricts usability for wheelchair users and others with physical limitations (Nazim & Ali, 2025) (Hamad, 2023). Moreover, many libraries do not adequately cater to individuals with cognitive or sensory impairments, limiting their ability to use library spaces effectively (Nazim, 2021b). This affects user experience and undermines the library's role in supporting academic and personal development for all users.

To address these issues, libraries must adopt universal design principles and comply with international standards such as the IFLA Checklist for Access to Libraries for Persons with Disabilities (Irvall & Nielsen, 2005). Collaborative efforts involving institutions, government bodies, and disability rights organizations are crucial for driving infrastructural improvements. Prioritizing accessibility within library development plans can significantly enhance inclusion and academic success for all users (Kiruki & Mutula, 2021).

6. Policy and Legal Frameworks

Legal frameworks play a pivotal role in ensuring equitable library access for persons with disabilities (PwDs). The United Nations Convention on the Rights of Persons with Disabilities mandates (*Convention on the Rights of Persons with Disabilities (CRPD) | Division for Inclusive Social Development (DISD)*, n.d.) equal access to information and communication technologies as a fundamental right. In support of this principle, the Marrakesh Treaty (2013) was established to facilitate access to published works for visually impaired and print-disabled individuals by allowing exceptions to copyright laws (*Marrakesh Treaty*, n.d.). Additionally, the Web Content Accessibility Guidelines (WCAG) provide globally recognized standards for digital accessibility, promoting the development of inclusive websites, online catalogues, and electronic resources (*Web Content Accessibility Guidelines (WCAG) 2.1*, n.d.).

In the United States, several landmark legal cases have shaped the framework for providing reasonable accommodations to persons with disabilities. Notable among them are Wynne v. Tufts and Southeastern Community College v. Davis, which established significant legal precedents emphasizing the need for institutions, including libraries, to implement inclusive services. In response to such rulings, the U.S. government has started strongly enacting the key

legislative measures such as Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act (ADA) of 1990. These laws mandate accessibility in public and academic libraries, ensuring that individuals with disabilities have equal access to library services and resources (Green, 2009). This approach ensures flexibility in services, allowing libraries to adapt and effectively meet users' diverse needs. Beyond mere compliance, libraries must integrate universal design and social justice principles to create sustainable, user-centered environments (Pionke, 2016). Government institutions and universities must implement effective accessibility measures. Prioritizing transparency, staff training, and inclusive policies fosters equitable access for all users (Stephanidis & Savidis, 2001).

7. Library Staff Training and Development

Inclusive library services rely heavily on well-trained staff who can effectively support persons with disabilities (PwDs). Training programs that focus on assistive technologies, inclusive practices, and disability awareness are essential for enhancing both the quality and accessibility of library services. However, inconsistent training initiatives and limited institutional resources often hinder these efforts, making continuous professional development a crucial element of sustainable service delivery (Irvall & Nielsen, 2005). While equipping librarians with the necessary competencies enables them to meet diverse user needs, the long-term impact and effectiveness of these training programs remain under-evaluated, raising questions about their sustainability.

Academic libraries, in particular, play a pivotal role in facilitating equitable access to information for visually impaired users. Leading institutions such as the University of Delhi and the top ten Indian Institutes of Technology (IITs) have introduced assistive technologies like laptops and mobile devices to support inclusive services (Saxena et al., 2022). Despite such advancements, many users continue to encounter significant challenges, largely due to inadequate training, lack of awareness, and insufficient access to essential tools such as screen readers and adaptive software. These issues are compounded by poorly developed digital infrastructure and limited staff preparedness, ultimately impeding the full potential of Information and Communication Technology (ICT) in fostering inclusion (Yadav & Singh, 2022). These barriers are not isolated. Across Indian university libraries, the scarcity of professional development opportunities further weakens efforts to provide meaningful support to users with disabilities, emphasizing the need for structured, ongoing training initiatives (Patil & Kumbar, 2021).

The challenges of accessibility are not confined to academic institutions; they are equally prevalent in school library environments. School librarians require specialized training programs that enable them to adapt services, modify resources, and deliver personalized support to students with disabilities (Murray, 2000). Recognizing this need, initiatives like Project ENABLE (Expanding Nondiscriminatory Access By Librarians Everywhere) were developed to enhance the capacity of school and teacher-librarians through structured, research-based training modules focused on inclusive library practices (Myhill, 2002). These programs not only build awareness but also empower librarians to proactively engage with the specific needs of disabled students.

Globally, tertiary libraries continue to face significant challenges in delivering inclusive services, particularly for persons with disabilities. In Zimbabwe, for instance, libraries are burdened not only by infrastructural and technological limitations but also by persistent attitudinal barriers that impede equitable access (Kadodo et al., 2016). These constraints

highlight the urgent need for comprehensive awareness programs and the cultivation of a proactive, inclusion-oriented mindset among library professionals. Yet, the presence of assistive technologies alone is insufficient. Their effectiveness largely depends on the staff's ability to use them competently. For example, hearing loops designed to support users with hearing impairments offer little benefit if staff are not adequately trained in their operation and upkeep (Schroeder, 2018).

Addressing these challenges requires a sustained commitment to staff training that goes beyond mere legal compliance. Such an approach enables libraries to evolve into genuinely inclusive, equitable, and user-centered environments that meet the diverse needs of all patrons (Grassi, 2018). In this context, collaboration with disability-focused organizations becomes essential, as it brings specialized knowledge and advocacy into the library system. Moreover, the thoughtful integration of assistive technologies—such as text-to-speech software and digital resource conversion services—can significantly reduce accessibility gaps and enhance overall service delivery (Kulikauskienė & Liukinevičienė, 2020). Together, these efforts form the foundation of a sustainable, inclusive library culture rooted in both technological innovation and human-centered practice.

8. Global Best Practices

Best practices in academic libraries emphasize the importance of establishing dedicated accessibility teams and employing specialized staff to support patrons with disabilities. In today's digital age, ensuring digital accessibility is equally vital, as a growing number of resources are accessed online. To meet this need, libraries must ensure that their websites, databases, and digital collections adhere to established accessibility standards. Collaborating with technology vendors can also aid in the development of platforms that accommodate users with visual, auditory, or cognitive impairments (Schroeder, 2018). To build sustainable and inclusive services, libraries must move beyond outdated frameworks such as the Medical and Charity Models of disability, which focus on individual impairments. Instead, adopting the Social Model of Disability encourages libraries to shift their focus toward removing environmental and institutional barriers. This paradigm supports the creation of inclusive policies, prioritizes accessibility in the design of spaces and services, and promotes long-term strategies for equitable access (Kadodo et al., 2016) (Falloon, 2015).

Some institutions have already made notable progress in this direction. For instance, the University of Limpopo in South Africa has established a dedicated accessibility unit designed in alignment with international standards, ensuring specialized services for disabled patrons (Phukubje & Ngoepe, 2017). A valuable framework in this context is the Comprehensive Assistive Technology (CAT) Model, which provides a holistic approach to analyzing and integrating assistive technologies. Building upon the Human Activity Assistive Technology (HAAT) Model, CAT not only aligns with the Social Model of Disability but also promotes interdisciplinary collaboration to ensure that assistive tools are effectively utilized in education, employment, and community participation (Hersh & Johnson, 2008).

In addition to adopting inclusive models, professional development initiatives have played a crucial role in improving accessibility services. Training programs and workshops on assistive technologies, Individualized Education Programs (IEPs), and inclusive education strategies have equipped library staff with the skills necessary to serve patrons with diverse needs. For example, a four-day workshop on inclusive library practices led to a marked improvement in participants' understanding of accessibility issues—over 40% of their resulting action plans

centered on implementing IEPs and integrating assistive technologies (Myhill, 2002). To truly achieve accessibility, libraries must view it as a long-term commitment rather than a one-time initiative. Embedding inclusivity into the library's core mission, investing in relevant assistive technologies, actively engaging with disabled users, and ensuring ongoing staff training are all essential components in transforming academic libraries into genuinely equitable and user-centred spaces.

9. Notable Practices and Innovations in India

India has a differently-abled population of 26.8 million (2.21% of the total population), of which 48.5% are visually impaired. Among them, 14.9 million are men and 11.9 million are women, with a majority—18 million—residing in rural areas, and 8.1 million in urban areas (Ministry of Statistics and Programme Implementation, 2021). To promote inclusivity and ensure equal rights, the Government of India implemented the National Policy for Persons with Disabilities (2006), supported by the Persons with Disabilities Act, 1995, effective from February 7, 1996 (Govenment of India, n.d.). These policies aim to provide equal opportunities and encourage full participation of persons with disabilities in all aspects of life.

To further support the differently-abled in higher education, the University Grants Commission (UGC) introduced schemes such as Teacher Preparation in Special Education (TEPSE) and Higher Education for Persons with Special Needs (HEPSN) (UGC, 2017). In the digital realm, Digital accessibility is best understood as a chain of dependencies where training, hardware, software, content, and standards must work together harmoniously, and each of these elements must be understood as a dynamic process (Botelho, 2021). Following this, the Government of India launched Sugamya Pustakalaya on 24th August 2016, in collaboration with the Ministry of Social Justice and Empowerment, the Daisy Forum of India, and Tata Consultancy Services (TCS). It is India's first online library for persons with visual impairments, aiming to eliminate the "book famine" for print-disabled individuals by partnering with global platforms like Bookshare and the Accessible Books Consortium.

Many users have expressed appreciation for the content available on Sugamya Pustakalaya, a prominent digital library for print-disabled users in India. However, feedback also indicates the need for considerable improvements in its layout, navigation, and the inclusion of a broader range of academic resources (M. A. Dodamani & Gedam, 2017). While digital accessibility remains an essential component, the availability of accessible resources in physical libraries continues to lag behind.

According to a study by Dodamani and Dodamani (2019), only 12.97% of libraries in India possess Braille books, while 22.70% are equipped with assistive technologies (AT) such as screen readers and magnifiers. The same percentage of libraries maintain accessible websites and have documented disability policies in place. Additionally, 21.08% of libraries have appointed designated staff members to support students with disabilities, reflecting a modest but noteworthy effort in fostering inclusivity (A. M. Dodamani & Dodamani, 2019). Despite these developments, a significant number of libraries across various Indian states still suffer from a lack of essential infrastructure. Facilities such as Braille books, talking books, screen readers, and other assistive devices—critical for supporting visually and physically challenged users—are either insufficient or entirely absent. This shortfall severely undermines the role of libraries in ensuring equitable access to education for all learners (Nazim et al., 2021).

One of the fundamental issues contributing to this situation is the absence of standardized guidelines from regulatory bodies. Without a unified policy framework, the development and implementation of inclusive library services remain inconsistent and often inadequate. Therefore, there is an urgent need for the Rehabilitation Council of India (RCI) to take a proactive role in formulating and enforcing clear standards for library services, particularly those associated with special education programmes. In addition to regulatory intervention, enhanced financial support and active participation from non-governmental organizations (NGOs) and educational management bodies are essential. These stakeholders can play a pivotal role in upgrading library infrastructure, acquiring assistive technologies, training staff, and ensuring the availability of specialized reading materials (A. Dodamani, 2020). By working collectively, these efforts can significantly strengthen library services and foster an inclusive educational environment for individuals with disabilities in India (Yadav & and Singh, 2022).

10. Challenges and Barriers

Despite growing emphasis on accessibility, several challenges persist. A key issue is the lack of trained librarians equipped to support disabled users (Jones & Hinesmon-Matthews, 2014). Financial constraints, limited institutional power, and weak policies often delay implementation, while the absence of structured training leads to ineffective efforts (Small et al., 2015). Physical barriers—such as narrow aisles, high shelves, and lack of ramps or elevators—remain common, especially in older buildings. Even upgraded facilities often lack essential resources like Braille books, screen readers, and ergonomic furniture, further limiting access (Clark Hunt et al., 2024). Attitudinal and institutional barriers also hinder inclusion. Although assistive technologies are present in some libraries, they are underutilized due to limited staff expertise and user education. A study across 15 Indian libraries revealed that awareness did not ensure effective use, leading to user dissatisfaction (Sanaman & Kumar, 2015).

In the National Capital Region (NCR), many libraries lack basic services for users with hearing or mobility impairments (Sanaman & Kumar, 2014). Technical compliance alone is insufficient—continuous evaluation, adaptability, and user feedback are essential (Getts & Stewart, 2018) (Oswal, 2017). Moreover, library policies often exclude disabled voices, resulting in services that are formally accessible but not truly usable. Disabled users frequently face challenges in navigating resources tailored to their needs (Chaputula & Mapulanga, 2016) (Roberson et al., 2022).

11. Conclusion

Despite policies promoting inclusivity, ineffective implementation, a limited understanding of diverse needs, and resource constraints hinder accessibility in Indian libraries (Mahmood et al., 2024). The focus often remains on visually impaired users, while those with cognitive and hearing impairments receive inadequate support (Hayes & Bulat, 2017). Additionally, a lack of specialized staff training, underutilization of user feedback, and budgetary constraints further exacerbate these challenges.

To bridge these gaps, libraries must adopt a multi-faceted approach, including:

- → Enhancing staff training in accessibility services.
- → Investing in assistive technologies and user education programs.
- → Implementing user-centered service design based on feedback from disabled patrons.

→ Conducting localized research to develop tailored strategies for rural areas with limited services.

By embedding inclusivity and accessibility into their core mission, libraries can cultivate an environment that not only supports disabled users but also promotes a culture of equality and empowerment, ultimately enriching the educational experiences of all learners.

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