

Research Article

Empowering Inclusion: Understanding Community Perspectives on Persons with Disability and Assistive Technology - A Pilot Study

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A B S T R A C T

Background: Disability poses a substantial public health concern worldwide. Social inclusion and assistive technology play a crucial role in enhancing the overall well-being of Persons with Disabilities (PwDs).

Objective: To evaluate the knowledge, attitudes, and perceptions of the adult population regarding PwDs and assistive technology, as well as to develop strategies for training and mass awareness campaigns on assistive technology

Methodology: This cross-sectional study was conducted among 142 individuals aged 18 years and above from various parts of Delhi. A 23-item questionnaire having four sections, addressing socio-demographics, knowledge, attitude, and perception about physically disabled persons, and assistive technology was implemented to collect data.

Results: Of all participants, 14.79% demonstrated knowledge of disabilities, while 54.237% were aware of the Rights of Persons with Disabilities (RPwD) Act, with 81.69% knowing its key components. Concerns were raised about discomfort in socialising with PwDs (32.39%), affordability of assistive products (80.99%), PwDs' participation in public activities (71.13%), and social stigma (64.79%). The need for health education initiatives to promote awareness and accessibility of assistive technologies for PwDs was also seen.

Conclusion: The study population has gaps in their knowledge attitude and perceptions and requires community-level health education to promote awareness of social acceptance and the availability of assistive technology for PwDs so that they can adopt innovative technologies.

Keywords: Persons with Disabilities, Physical Disability, KAP, Assistive Technology

Introduction

Disability represents a significant public health challenge globally.¹ According to the World Health Organization (WHO), approximately 16% of the world's population faces considerable disability. This figure is projected to rise, driven by population ageing and an increase in the incidence of non-communicable diseases.² India, as a developing nation, also contributes to the global challenge of addressing disability as a public health concern. According to data from Census 2011 and the recently conducted 76th round of the National Sample Survey, the prevalence of disability in India is estimated at 2.2%.^{3,4}

It has been reported that Persons with Disabilities (PwDs) frequently encounter prejudice and negative attitudes from the public,⁵ even though acceptance and support from society are crucial components for their overall well-being.⁶ Negative perceptions towards PwDs not only result in limited opportunities for them but also subject them to stigmatisation and marginalisation, which are associated with adverse health outcomes, thereby creating a significant social burden.⁷ To tackle this issue, social inclusion and community participation of PwDs have been prioritised as central concepts guiding current policies for PwDs globally.⁸ The Rights of Persons with Disabilities (RPwD) Act, introduced by the Government of India in 1995 and subsequently amended, aligns with this objective by striving to guarantee that all individuals with disabilities can lead dignified lives, devoid of discrimination, and with fair access to opportunities.⁹

Among the myriad of mechanisms aimed at fostering the social inclusion of PwDs, assistive technology emerges as a beacon of hope.¹⁰ According to the WHO, assistive technology (AT) encompasses a broad range of systems and services associated with providing assistive products and support.¹¹ Research underscores the considerable potential of AT in enhancing the daily functioning and performance of individuals confronting diverse challenges.¹⁰ Highlighting this critical fact, the 71st World Health Assembly acknowledged the pivotal role of AT in achieving universal health coverage. This recognition was strengthened through the adoption of Resolution 71.8 in May 2018, aimed at enhancing access to AT.¹² Recognising the significance of Assistive Products, the National List of Essential Assistive Products¹³ has been prepared under the initiative of the Indian Council of Medical Research, New Delhi, Ministry of Health and Family Welfare, Government of India. For any such initiative to effectively reach the grassroots level, it is essential to have a community that possesses sufficient knowledge and awareness regarding the initiative. Furthermore, sensitising people to the needs and concerns of individuals with physical disabilities would promote a favourable attitude change and enhance the social inclusion

of PwDs. Hence, the present study was conducted to evaluate the knowledge, attitudes, and practices of the general public regarding PwDs and assistive technology, as well as to develop strategies for training and mass awareness campaigns on assistive technology.

Materials and Method

The present cross-sectional study was conducted among a population from various parts of Delhi. The study participants included individuals of all age groups above 18 years, regardless of health conditions or functional limitations, and irrespective of their use of assistive technology. A convenient sample of 142 individuals who consented to participate in the study were recruited from attendees of the India International Trade Fair 2023, staff of the Central Drugs Standard Control Organization, teachers and staff of Sarvodaya Kanya Vidyalaya, Delhi, and residents from a group housing complex society. The participants were enrolled after obtaining the informed consent.

Data were collected using a 23-item questionnaire, which was developed in consultation with experts and tested for clarity and comprehensiveness. The items were finalised upon consensus from all expert members. Subsequently, the questionnaire was translated into Hindi with the assistance of a language expert and then back-translated into English to ensure the quality, precision, and accuracy of the questions. Options for the questions were structured in a Likert scale format, allowing respondents to select the option that best aligns with their views, facilitating the expression of their agreement or disagreement with each question or statement. The questionnaire had four sections, addressing socio-demographics (6 questions), knowledge of physical disability (9 questions), attitude towards physically disabled persons (4 questions), and perception about physically disabled persons (4 questions) respectively.

Descriptive statistics, including frequency and percentage, were calculated using Microsoft Excel.

Results

As depicted in Table 1, the majority of participants fell within the age group of 25 to 34 years (35.21%) followed by the individuals aged between 18 and 24 years (34.51%). The majority identified as female (61.97%). Among the 142 study participants, 78 (54.93%) reported being in contact with individuals with disabilities residing in their vicinity (Table 1).

Table 1. Demographic Profile of Study Participants (N = 142)

Variable	n (%)
Age in years	-
18–24	49 (34.51)

25–34	50 (35.21)
35–44	20 (14.09)
45–54	7 (4.93)
55–64	13 (9.15)
> 64	3 (2.11)
Gender	-
Male	54 (38.03)
Female	88 (61.97)
Employment status (present)	-
Employed	93 (65.49)
Unemployed	1 (0.70)
Students	45 (31.69)
Others	2 (1.42)
Not responded	1 (0.70)
PwDs in family or neighbourhood	-
Yes	78 (54.93)
No	59 (41.55)
Not responded	5 (3.52)

Domain 1: Knowledge

Out of the 142 participants, 21 (14.79%) demonstrated knowledge about various types of disabilities, while 19 (13.38%) exhibited poor knowledge. The majority of participants (71.13%) reported having moderate

knowledge about different types of disabilities. The term “moderate knowledge” suggests that individuals have some understanding of disabilities or related assistive technology products, indicating a level of knowledge that is neither extensive nor minimal.

Regarding the RPwD Act, 77 participants (54.23%) reported knowing about it, and among them, 81.69% were aware of its key components. Furthermore, it was observed that 17.61% of participants were unaware of the diverse range of assistive technologies available for PwDs. Moreover, 28.87% of the participants lacked awareness regarding the easy accessibility of these assistive technologies, while 6.34% chose not to respond to the question, and 39.44% expressed a neutral stance. Additionally, 50.94% of the participants held the view that PwDs do not receive equal job opportunities.

Domain 2: Attitude

It was found that 46 (32.39%) of the participants expressed the view that individuals feel uncomfortable interacting with PwDs in current social settings. The majority of participants agreed that individuals with disabilities can fulfil their life’s purpose and emphasised the importance of promoting supportive environments for PwDs in the workplace and social settings, as well as showing empathy towards them (Table 2).

Table 2. Attitude of Participants Towards PwDs

S. No	Questions in the Attitude Section	Strongly Disagree n (%)	Disagree n (%)	Neutral n (%)	Agree n (%)	Strongly Agree n (%)	Not Responded n (%)
Please indicate your attitude towards the following statements							
1	In social settings, it is uncomfortable to interact with persons with disabilities.	37 (26.06)	2 (1.41)	56 (39.44)	44 (30.99)	2 (1.40)	1 (0.70)
2	Persons with disabilities can fulfil their purpose in life.	-	16 (11.27)	21 (14.78)	58 (40.85)	42 (29.58)	5 (3.52)
3	Workplaces/ social settings should actively promote a supportive environment for the person with disabilities.	-	15 (10.56)	21 (14.79)	53 (37.33)	50 (35.21)	3 (2.11)
4	One should show empathy towards persons with disabilities.	9 (6.34)	13 (9.15)	25 (17.61)	62 (43.66)	28 (19.72)	5 (3.52)

Domain 3: Perceptions

The study revealed that 115 participants (80.99%) perceived the assistive products available in the market for PwDs as unaffordable, while 71.13% expressed the view that PwDs are not equally involved in events and other public activities. Furthermore, 64.79% of the participants believed that a social stigma persists either in the family or in individuals with disabilities.

A majority of participants (85.92%) agreed on the necessity for health education and promotion initiatives targeting the general public regarding assistive products for PwDs (Figure 1).

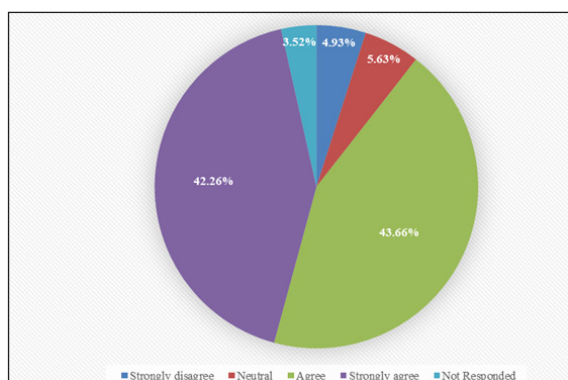


Figure 1. Responses to the Question ‘Do You Feel There is a Need for Health Education and Health Promotion for the General Public on Assistive Products for PwD?’

Discussion

The present study assessed the knowledge, attitudes, and perceptions of individuals towards PwDs and assistive technology. Our study primarily comprised female participants, with 35.21% in the age group of 25 to 34 years, followed by the age group of 18–24 years (34.51%).

The study findings indicate that most participants possessed a moderate level of knowledge regarding various types of disabilities. The term “moderate knowledge” denotes that individuals have a discernible understanding of disabilities and associated assistive technology products, suggesting a level of comprehension that falls between extensive and minimal.

It was observed that the majority of participants were aware of the Rights of Persons with Disabilities Act and its key components. A community with sufficient knowledge about the rights of PwDs can foster inclusivity and enhance their physical and mental well-being. Furthermore, a majority of study participants felt that PwDs do not have equal job opportunities. Published reports suggest that there are several challenges for PwDs to enter the job market. Some of the significant factors reported in India include a lack

of education and training, insufficient financial resources, the nature of the workplace, and the adverse attitudes of the employers.¹⁴

The study revealed that 17.61% of participants were not familiar with various types of assistive technologies (AT) for PwDs while a majority remained neutral in their response regarding the easy accessibility of AT. Research indicates that inadequate awareness about AT among both the target population and service providers contributes to significant disparities in AT access.¹⁵ It was interesting to note that a majority of participants not only expressed empathy towards PwDs but also recognised the need to promote supportive environments for them in both workplace and social settings. This is indeed an encouraging finding, as several studies have reported that positive social attitudes could facilitate the inclusion of PwDs and foster acceptance by family, friends, and employers.¹⁶

Of the participants, 80.99% perceived that the assistive products available in the market for PwDs as unaffordable. However, it is important to note that the reason existence of financial barriers in procuring assistive technologies is beyond the scope of this discussion, as we did not inquire about the possible reasons for this perception. The study also revealed that 64.79% of participants perceived a persistent social stigma towards PwDs or their families, highlighting the significance of addressing societal attitudes towards them. Numerous researchers worldwide have explored individuals’ knowledge regarding disabilities and have observed that the knowledge level can significantly influence attitudes towards PwDs.^{17,18} On the contrary, a study by Copeland et al.¹⁹ reported no significant relationship between knowledge level and attitudes towards PwDs. It is noteworthy that social inclusion, community participation, and the empowerment of people with disabilities are central concepts guiding current policies and services provided worldwide.²⁰

Encouragingly, 85.92% of participants recognised the necessity for health education and promotion initiatives aimed at raising awareness among the general public about assistive technologies for PwDs, suggesting a willingness to foster greater understanding and support for PwDs. Awareness of assistive technologies would facilitate the use of these products and services, enabling PwDs to lead active and independent lives and promote social inclusion, thereby contributing to their overall well-being. Health education and promotion activities emphasising ATs would help in bridging the knowledge gap.²¹ The findings of the present study showed the multifaceted nature of the challenges faced by PwDs and emphasised the importance of comprehensive health education and health promotion efforts to promote accessibility, inclusion, and societal acceptance.

Conclusion

The present study revealed that there is a knowledge gap, adverse attitudes, and negative perceptions among the general public towards PwDs and Assistive Technologies. Further, the study underscores the need for health education and promotion activities at the community level to raise awareness about the importance of social acceptance for PwDs and the availability of assistive technologies.

Authors' Contributions

Conceived and designed the entire study: GNS; designed questionnaire: SKY, SKB, SA; reviewed the questionnaire: GNS; collected and collated the data: SKY, SA; analysed the data: GNS, SKY, SKB, SA; wrote the paper: DAK; reviewed and finalised the manuscript: AG, GNS

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