ISSN No:-2456-2165 https://doi.org/10.38124/ijisrt/26aug1141

User Experiences with Mobility Assistive Technology: A Study on Usability and Satisfaction in Neurological Disorders

Bhavna S.[1]; Kurinji Chelvan S.[2]

[1]BOT Intern, College of Occupational Therapy, NIEPMD, Chennai, India
[2]Principal, MOT (Developmental Disabilities), PGDCBR, MBA, College of Occupational Therapy, NIEPMD, Chennai, India

Publication Date: 2026/09/08

Abstract:

- ***Background:***
  Mobility assistive technology plays a vital role in enhancing mobility, independence, and quality of life among persons with neurological conditions. However, device abandonment remains a significant concern, often influenced by usability and user satisfaction.

- ***Aim:***
  To find out the usability and satisfaction of mobility assistive technology among persons with neurological conditions.

- ***Method:***
  A cross-sectional study was conducted among persons with neurological conditions using mobility assistive devices. Usability was assessed using the NATU Quest, and satisfaction was evaluated using the QUEST 2.0 questionnaire. The collected data was analysed.

- ***Results:***
  Overall usability and satisfaction were high, with mean NATU Quest and QUEST 2.0 scores of 4.37 ± 0.60 and 4.21 ± 0.52, respectively. Higher scores were observed among participants using devices outdoors, while longer device use was associated with lower usability and satisfaction. Devices obtained through hospitals, NGOs, and government schemes showed significantly better outcomes. Safety, comfort, effectiveness, and ease of use were highly rated, whereas follow-up and repair services received comparatively lower satisfaction.

- ***Conclusion:***
  Mobility assistive devices demonstrate high usability and satisfaction among persons with neurological conditions; however, service delivery gaps may negatively impact long-term outcomes. Strengthening follow-up, repairs, services and adopting user-centered provision models are essential to reduce device abandonment and promote sustained use.

Keywords: *Mobility Assistive Technology, Neurological Conditions, Usability, NATU Quest, Satisfaction, QUEST 2.0.*

How to Cite: Bhavna S.; Kurinji Chelvan S. (2026) User Experiences with Mobility Assistive Technology: A Study on Usability and Satisfaction in Neurological Disorders. *International Journal of Innovative Science and Research Technology*, 11(8), 3089-3097. https://doi.org/10.38124/ijisrt/26aug1141

I. INTRODUCTION

- *Neurological Conditions and Global Burden:*

Neurological conditions are now among the leading causes of global illness and disability, accompanied by an 18.2% increase in the global burden of DALYs associated with them between 1990 and 2021. The majority of neurological condition burden occurs in low- and middle-income countries (LMICs) (1). The India State-Level Disease Burden Initiative reported that neurological disorders contribute extensively to disability-adjusted life years (DALY), with stroke and neurodegenerative disorders being major contributors (2). In 2019, stroke was the leading contributor to neurological condition–related DALYs, accounting for 37.9% of the total neurological DALYs in India (2). Neurological conditions such as stroke, spinal cord

ISSN No:-2456-2165 https://doi.org/10.38124/ijisrt/26aug1141

injury, Parkinson's disease, multiple sclerosis, and traumatic brain injury frequently result in impairments of motor control, balance, coordination, and posture, leading to limitations in functional mobility. These conditions often lead to persistent mobility restrictions, increased dependency, reduced participation in daily activities, and diminished quality of life, highlighting the need for effective rehabilitation and long-term mobility support (3).

➢ *Mobility Impairments in Neurological Conditions*

The World Health Organization defines mobility as "the individual's ability to move about effectively in his surroundings" (4). Mobility is a fundamental component of functional independence and quality of life. Neurological impairments often disrupt normal gait patterns due to muscle weakness, spasticity, sensory loss, and impaired motor coordination. These impairments increase the risk of falls, reduce endurance, and limit safe ambulation (3). Effective management of mobility limitations requires a combination of therapeutic interventions and assistive technologies tailored to individual needs. Assistive devices are therefore integral to long-term management and rehabilitation of persons with neurological conditions (5).

➢ *Mobility Assistive Technology*

The World Health Organization defines Assistive Technology as "the application of organized knowledge and skills related to assistive products, including systems and services." Assistive products are defined as "any external product, especially produced or generally available, the primary purpose of which is to maintain or improve an individual's functioning and independence, and thereby promote their well-being" (6). Commonly used mobility assistive devices in neurological rehabilitation include canes, crutches, walkers, manual and powered wheelchairs, and lower-limb orthoses (7). However, the effectiveness of these devices depends not only on their availability but also on their usability and user satisfaction.

➢ *Assistive Technology Use and Abandonment*

Despite the widespread prescription of mobility assistive technology, discontinuation and abandonment remain significant challenges. Research indicates that an abandonment rate of 17.5% was found among persons with neurological conditions (8). Abandonment of mobility assistive devices hinders functional recovery and contributes to loss of valuable healthcare resources. Predictors of abandonment include lack of user involvement in device selection, mismatch between device characteristics and user needs, discomfort, poor fitting, inadequate training, and insufficient follow-up (8,9). Early models of assistive technology abandonment emphasized that both device-related and psychosocial factors influence continued use (9). Understanding these factors is essential to reduce abandonment and promote effective utilization.

➢ *Usability of Mobility Assistive Technology*

According to the International Organization for Standardization (ISO 9241 11), usability is defined as "the extent to which a system, product, or service can be used by specified users to achieve specified goals with effectiveness, efficiency, and satisfaction in a specified context of use" (10). High usability enables safe and confident use of mobility devices, while poor usability may result in frustration, fatigue, and reduced adherence (6,9). Assessment of usability provides valuable insights into device-related barriers that may influence continued use. Understanding usability issues is essential for improving device selection, customization, and follow-up, thereby reducing the risk of abandonment (6).

➢ *Satisfaction with Mobility Assistive Technology*

According to ISO 9241-11, satisfaction is defined as "the extent to which the user's physical, cognitive and emotional responses that result from the use of a system, product or service meet the user's needs and expectations" (10). Evidence suggests that higher satisfaction is associated with improved adherence, continued use, and enhanced quality of life (9). Conversely, dissatisfaction with mobility assistive technology has been identified as a strong predictor of device discontinuation (6). Therefore, evaluating satisfaction is essential for understanding user experience and optimizing assistive technology interventions.

➢ *Aim and Objectives*

- *Aim of the Study:*

To find out the usability of the mobility assistive technology and satisfaction among the users with Neurological conditions.

- *Objectives of the Study:*

✓ To assess the usability of the mobility assistive technology.
✓ To assess the satisfaction of the mobility assistive technology users.

- *Hypothesis:*

✓ *Alternate Hypothesis:*

There is a significant level of usability and satisfaction with mobility assistive technology among persons with neurological conditions.

✓ *Null Hypothesis:*

There is no significant level of usability or satisfaction with mobility assistive technology among persons with neurological conditions.

➢ *Need of the Study*

Mobility assistive technology is essential for improving mobility and quality of life among persons with neurological conditions; however, there is evidence stating that an abandonment rate of 17.5% is seen among persons with neurological conditions (9). Usability and satisfaction are key determinants of continued device use, with poor usability often leading to dissatisfaction and discontinuation (8). Factors such as mismatch with user needs, discomfort, poor fitting, and inadequate follow-up and repair services have been consistently identified as major contributors to abandonment, particularly in low- and middle-income countries (14,21). Therefore, evaluating usability and

ISSN No:-2456-2165 https://doi.org/10.38124/ijisrt/26aug1141

satisfaction is essential to reduce abandonment and promote effective, long-term use of mobility assistive technology (6).

II. REVIEW OF LITERATURE

Wressle et al. (2004) conducted a cross-sectional descriptive study in Sweden to assess user satisfaction with mobility assistive devices and related services. Data were collected from adults using wheelchairs and walkers using questionnaires about device usage and QUEST 2.0. Results showed higher satisfaction with the devices than with services, with follow-up receiving the lowest satisfaction scores. Users also reported high device usage and positive effects on daily activities (17).

Jiménez-Arberas and Ordóñez-Fernández (2021) conducted a study which aimed to determine potential sociodemographic factors that may be related to AT and impact its discontinuation or abandonment with PIADS. The study reported that 14 out of 80 participants (17.5%) discontinued or abandoned their mobility assistive technology. The authors highlighted that assistive technology abandonment is influenced not only by device-related factors but also by users' needs, psychosocial factors, adequacy of training, and the interaction between the user and the technology (8).

The Global Report on Assistive Technology [2022] emphasizes that assistive products must be designed and provided according to users' functional needs, environments, and life contexts to ensure long-term usability and satisfaction. The report highlights that many manufacturers focus on urban-oriented designs, leaving individuals in rural setting. Such mismatches between product design and user needs often lead to device abandonment. Furthermore, although health personnel are often trained in assessment, fitting, and user training, follow-up and maintenance services are rarely funded, resulting in poor repair support and reduced device lifespan (6).

Senjam et al. (2022) conducted a cross-sectional study in eight districts across four zones of India using the WHO Rapid Assistive Technology Assessment (rATA) tool. Among 8,486 participants, 22.2% used assistive technology and 3.9% reported dissatisfaction. Satisfaction was high with assistive products (92.2%), assessment and training (88.4%), and repair and maintenance (85.2%). Dissatisfaction was mainly due to discomfort, poor fitting, poor service quality, and aesthetics. The study highlighted high overall satisfaction but identified gaps in repair, maintenance, and follow-up services (14).

Borgnis et al. (2023) conducted a systematic review to identify outcome measures used to evaluate assistive technology interventions. Of 955 publications screened, 50 studies met the inclusion criteria, identifying 53 outcome measures. The measures assessed eight major domains, including functional effectiveness, satisfaction, psychosocial impact, caregiver burden, quality of life, participation, confidence, and usability. PIADS and QUEST 2.0 were the most commonly used tools (15).

III. METHODOLOGY

- Research design: Cross-sectional Quantitative study
- Setting of the study: The study was conducted at National Institute for Empowerment of Persons with Multiple Disabilities [NIEPMD], Chennai.
- Sampling population: Adults with Neurological conditions who used mobility devices
- Sampling technique: Convenience sampling
- Variables: Usability, Satisfaction

- *Screening Criteria:*

- *Inclusion Criteria:*

✓ Person diagnosed with a Neurological condition who uses a mobility device (manual wheelchair, powered wheelchair, walker, canes, crutches, lower extremity orthosis, tricycle and rollators)
✓ Age – 18 to 65 years old
✓ Participants should have used the device for more than a month

- *Exclusion Criteria:*

✓ Person with MMSE score less than 23

IV. TOOLS USED

- *Mini Mental Status Examination (MMSE)*

- *Assistive Technology Usability Questionnaire for People with Neurological Diseases (NATU Quest):*

The NATU Quest is a reliable 10-item usability questionnaire which is either self-administered or interviewer-administered, that allows subjective and quick assessment of the usability of assistive technologies by people with neurological diseases. Each item is rated on a 6-point Likert scale ranging from 0 (Strongly Disagree) to 5 (Strongly Agree). The questionnaire's total score varies from 0 to 5 and is obtained by adding the scores of valid answers from 1 to 10 and dividing the sum by the number of valid items.

- *Quebec User Evaluation of Satisfaction with Assistive Technology (QUEST version 2.0):*

QUEST 2.0 is a standardized outcome measure designed to assess user satisfaction with assistive technology and related services. It can be either self-administered or completed with the help of the evaluator. It has 12 items, divided into two subscales:

- Device subscale (8 items): dimensions, weight, adjustments, safety, durability, ease of use, comfort, effectiveness
- Services subscale (4 items): service delivery, repairs/servicing, professional services, follow-up

Each item is rated on a 5-point Likert scale (1 = not satisfied at all to 5 = very satisfied). The scores were calculated as mean values for Device subscale, Services subscale and Total QUEST score. The score for the Device

ISSN No:-2456-2165 https://doi.org/10.38124/ijisrt/26aug1141

subscale is obtained by adding the ratings of the valid responses and dividing this sum by the number of valid items in the subscale and vice versa for the Services subscale. The total QUEST score is obtained by adding the ratings of the valid responses for items 1 to 12 and dividing the sum by the number of valid items. The score ranges from 1.00 to 5.00 where higher scores indicate greater satisfaction. And three important attributes of the device and the service are chosen from the 12 items by the user.

➢ *Procedure*

Ethical approval for the study was obtained from Institutional Ethics Committee (IEC) of NIEPMD vide approval no. is NIEPMD/R.D20(5)/Ethics Committee/2025-26/34. The study was conducted at the National Institute for Empowerment of Persons with Multiple Disabilities (NIEPMD), Chennai, after obtaining permission. The purpose of the study and participants' rights were explained, and written informed consent was obtained. Participants were selected based on inclusion and exclusion criteria and were screened using the Mini Mental Status Examination, following which demographic data were collected. Eligible participants were provided with the NATU Quest and QUEST 2.0 questionnaires for data collection. The collected data were analysed and estimated using standard statistical software (STATA version 14.0).

V. RESULTS

Table 1 Descriptive Statistics of the Study Participants

Variables	Mean /Frequency	SD / %
Age [Mean (SD)] (n = 30)	49.63	9.11
Gender [n (%)]		
Female	9	30
Male	21	70
Place of residence [n (%)]		
Rural	25	83.33
Urban	5	16.64
Diagnosis [n (%)]		
PD	2	6.67
Polio	13	43.33
SCI	13	43.33
Stroke	2	6.67
Percentage of disability [n (%)]		
30-50	2	6.67
60-70	13	43.33
70-80	7	23.33
80-90	5	16.67
90-100	3	10.00
No of device used [n (%)]		
1	16	53.33
2	14	46.67
Type of device [n (%)]		
AFO	2	6.67
Crutches	10	33.33
M.w/c	11	36.67
Tricycle	5	16.67
Walker	2	6.67
How long have you been using it (Years) [Median (IQR)]	3	(2, 5)
No of hours of use per day [n (%)]		
1-3h	8	26.67
3-5h	8	26.67
5-8h	8	26.67
>8h	6	20
Place of use [n (%)]		
Both	18	60
Indoors	4	13.33
Outdoors	8	26.67
How did you get the devices (Source) [n (%)]		
Family/Friends	5	16.67
Govt	15	50
NGO	5	16.67

ISSN No:-2456-2165 https://doi.org/10.38124/ijisrt/26aug1141

Others (Hospital)	3	10
Self	2	6.67
Have you given your device for service [n (%)]		
No	15	50
Yes	15	50
How far is the nearest service centre (km) [Median (IQR)]	50	(40, 250)
How often it needs repair [n (%)]		
Monthly	1	3.33
Quarterly	3	10
Rarely	15	50
Yearly	11	36.67

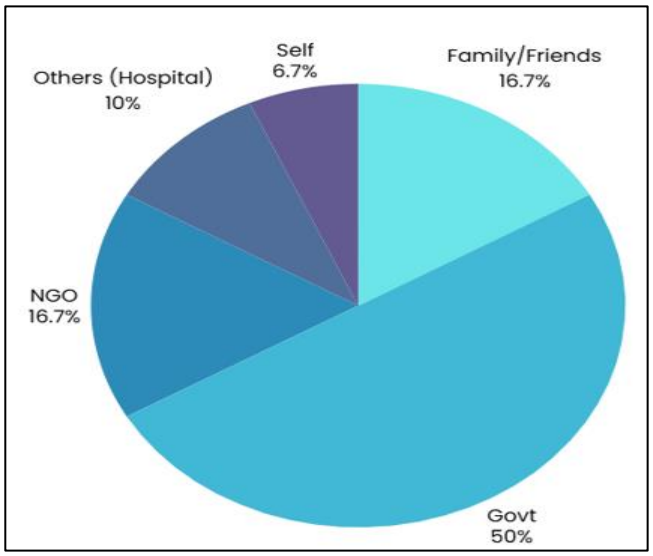

Fig 1 Distribution of Population by Source of Obtaining the Device

A total of 30 adults with neurological conditions participated in this study. Table 1 shows that The mean age of the participants was 49.63 ± 9.11 years. The majority of participants resided in rural areas (83.33%).

Polio and spinal cord injury were the most prevalent diagnoses (43.33% each). Most participants (43.33%) had a disability percentage between 60–70%. More than half of the participants (53.33%) used one mobility assistive device. Crutches (33.33%) and manual wheelchairs (36.67%) were the most commonly used devices.

The median duration of assistive device use was 3 years (IQR: 2–5). Half of the devices were obtained through government sources, and only 50% of the participants reported receiving follow-up services. The median distance travelled for device servicing was 50 km (IQR: 40–250).

➢ *Usability Scores (NATU Quest - Assistive Technology Usability Questionnaire for People with Neurological Diseases):*

Table 2 Represent the Comparison between the NATU Score and the Demographic Variables

Variables	**NATU Score**	
	Mean (SD)	**P value**
Age [r value][1]	-0.322	0.082
Gender [2]		
Female	4.44 (0.47)	0.687
Male	4.34 (0.66)	
Place of residence [2]		
Rural	4.36 (0.62)	0.848
Urban	4.42 (0.53)	
Diagnosis [3]		
PD	3.96 (0.36)	0.053
Polio	4.36 (0.54)	
SCI	4.59 (0.55)	
Stroke	3.45 (0.77)	
No of device used		
1	4.24 (0.69)	0.201
2	4.53 (0.45)	
How long have you been using it [Years] [4]	-0.169	0.371
No of hours of use per day [3]		
1-3h	4.06 (0.78)	0.233
3-5h	4.28 (0.51)	
5-8h	4.58 (0.45)	
>8h	4.63 (0.53)	

ISSN No:-2456-2165 https://doi.org/10.38124/ijisrt/26aug1141

Place of use [3]		
Both	4.33 (0.71)	0.437
Indoors	4.12 (0.57)	
Outdoors	4.58 (0.25)	
How did you get the device (Source)[3]		
Family/Friends	3.52 (0.56)	<0.001
Govt	4.55 (0.47)	
NGO	4.74 (0.32)	
Others (Hospital)	4.67 (0.25)	
Self	3.85 (0.21)	
How far is the nearest service centre (km) [1]	-0.071	0.708
Device Sub scale Score [1]	0.827	<0.001
Service Sub scale Score[1]	0.426	0.018

[1] Pearson correlation; [2] Independent sample t test; [3] one-way ANOVA; [4] Spearman rank correlation was used to compare the variables with NATU Score

The mean NATU QUEST usability score was 4.37 ± 0.60, reflecting high usability of mobility assistive technology. The source of the assistive device showed a highly significant association with NATU QUEST scores ($p < 0.001$), with higher usability scores reported by participants who received devices from government sources, NGOs, and hospitals. Strong positive correlations were found between the NATU QUEST score and the device subscale score ($r = 0.827$, $p < 0.001$) as well as the service subscale score ($r = 0.426$, $p = 0.018$).

➢ *Satisfaction Scores (QUEST 2.0 - Quebec User Evaluation of Satisfaction with Assistive Technology Version 2.0):*

Table 3 Represent the Comparison between the QUEST Score and the Demographic Variables

Variables	**QUEST Score**	
	Mean (SD)	**P value**
Age [r value][1]	-0.084	0.659
Gender [2]		
Female	4.24 (0.54)	0.812
Male	4.19 (0.52)	
Place of residence [2]		
Rural	4.16 (0.53)	0.405
Urban	4.38 (0.39)	
Diagnosis [3]		
PD	4.12 (0.28)	0.694
Polio	4.10 (0.46)	
SCI	4.33 (0.61)	
Stroke	4.09 (0.0)	
No of device used		
1	4.09 (0.64)	0.234
2	4.32 (0.37)	
How long have you been using it [4]	-0.169	0.371
No of hours per day [3]		
1-3h	4.06 (0.69)	0.683
3-5h	4.13 (0.55)	
5-8h	4.35 (0.29)	
>8h	4.29 (0.46)	
Place of use [3]		
Both	4.15 (0.59)	0.423
Indoors	4.04 (0.61)	
Outdoors	4.40 (0.12)	
How did you get the device (Source) [3]		
Family/Friends	3.59 (0.75)	0.037
Govt	4.31 (0.36)	
NGO	4.41 (0.51)	
Others (Hospital)	4.43 (0.98)	
Self	4 (0.11)	

ISSN No:-2456-2165 https://doi.org/10.38124/ijisrt/26aug1141

How far is the nearest service centre (km) [1]	-0.106	0.575
Device Sub scale Score [1]	0.934	<0.001
Service Sub scale Score[1]	0.803	<0.001

[1]Pearson correlation; [2] Independent sample t test was used; [3] one-way ANOVA; [4] Spearman rank correlation was used to compare the variables with QUEST Score

Overall user satisfaction with mobility assistive technology was high among the participants. The mean total QUEST score was 4.21 ± 0.52. Participants reported greater satisfaction with device-related aspects (mean = 4.46 ± 0.55) compared to service-related aspects (mean = 3.71 ± 0.65).

Item-wise analysis revealed high satisfaction levels for dimensions, safety, comfort, effectiveness, and ease of use. Lower satisfaction levels were observed for follow-up services and repair-related aspects. The source of the assistive device showed a statistically significant association with QUEST scores (p = 0.037), with higher satisfaction reported among participants who received devices from hospitals, NGOs, and government sources.

Safety was the most frequently prioritized attribute followed by durability, weight and adjustability.

VI. DISCUSSIONS

The present study examined usability and satisfaction with mobility assistive devices among persons with neurological conditions, using the NATU Quest (usability) and QUEST 2.0 (satisfaction) outcome measures.

➢ *Usability of Mobility Assistive Technology*

The present study demonstrated high overall usability of mobility assistive devices, with a mean NATU Quest score of 4.37 ± 0.60 out of 5.00, indicating effective functional support during daily mobility activities.

Table 2 represents the comparison between the NATU Quest score and demographic and device-related variables. Age showed a negative correlation with NATU Quest score, but it was not statistically significant (r = −0.322, p = 0.082). Similarly, gender, place of residence, diagnosis, number of devices used, duration of use, hours of use per day, place of use, and distance to the service centre did not show statistically significant associations with usability.

Although higher scores among the urban participants highlights the disparities in access to assistive technology which is consistent with previous researches (24, 26). Higher scores were seen among persons with spinal cord injury compared to others, which aligns with the evidence from previous research stating high satisfaction and ease of use could be due to the consistent reliance and integration of these aids into their daily life (27). The declining usability trend associated with increasing years of device use in this study mirrors the findings from previous studies (9,24), which suggest that wear and tear, changing functional needs, and inadequate follow-up services contribute to reduced long-term usability and eventual device abandonment. Outdoor usage of the devices had higher usability scores highlighting that devices supporting community mobility are perceived more usable and functionally relevant (17). The inverse relationship between distance travelled for repair and services and usability highlights the role of service accessibility in sustained device use which has been consistently reported in low-resource settings (22,24,26).

A significant association was found between the source of obtaining the device and NATU Quest score (p < 0.001). Participants who obtained devices through NGOs had the highest usability scores, while those receiving devices from family/friends had lower scores. This may indicate the importance of proper assessment, device selection, training, and professional support in improving usability (14,30).

Strong positive correlations between overall usability and device subscale scores confirm that physical characteristics such as safety, comfort, and effectiveness are primary determinants of usability. Moderate correlations with service subscale scores further indicate that service quality also contributes to usability outcomes, consistent with earlier reports (11,17).

➢ *User Satisfaction with Mobility Assistive Technology*

Overall user satisfaction with mobility assistive devices was high, with a mean QUEST score of 4.21 ± 0.52 out of 5.00. Higher satisfaction with device-related aspects compared to service-related aspects has been consistently reported across assistive technology studies (17,18).

Table 3 represents the comparison between the QUEST score and demographic and device-related variables. Age showed a weak negative correlation with QUEST score (r = −0.084), which was not statistically significant (p = 0.659). Similarly, gender, place of residence, diagnosis, number of devices used, duration of use, hours of use per day, place of use, and distance to the nearest service centre showed no statistically significant association with satisfaction (p > 0.05).

Although, higher scores among the persons using two devices indicate that use of multiple devices allows better adaptation to different environments and functional demands (9). Declining trend in increasing years of device use shows that long-term device usage is linked with durability issues (8,9,18). There was higher satisfaction among users who used their devices outdoors, which is associated with independence, social participation, and quality of life, thereby enhancing satisfaction levels (19,21).

A statistically significant association was found between the source of obtaining the device and QUEST score. Participants who obtained devices through hospitals, NGOs and government sources reported higher satisfaction than those who obtained devices through family/friends. This suggests that structured provision and professional support

ISSN No:-2456-2165 https://doi.org/10.38124/ijisrt/26aug1141

may influence satisfaction (14). Senjam et al. also reported generally high satisfaction with assistive products, assessment and training, although challenges remained in service delivery and follow-up (14).

Item-wise analysis showed high satisfaction with safety, comfort and effectiveness. Safety has consistently been identified as a primary determinant of user satisfaction and continued device use across multiple studies (17,18,19). In contrast, follow-up and repair services were scored the lowest. Similar patterns have been reported across diverse settings and this emphasizes the need for regular follow-up to address changing assistive technology needs (14,17,22).

VII. CONCLUSION

The study concluded that participants generally reported high usability and satisfaction with their mobility assistive technology. Usability was significantly associated with the source of obtaining the device, while device-related and service-related factors showed significant positive correlations with overall usability. Similarly, satisfaction was significantly associated with the source of the device. Devices obtained through structured service delivery systems such as hospitals, non-governmental organizations and government associated with higher usability and satisfaction, underscoring the importance of professional assessment, training, and follow-up. Follow-up and continued service provision remain important areas for improvement, highlighting the need for appropriate device selection, user training, regular follow-up, repair, and maintenance to promote effective and sustained use of mobility assistive technology.

LIMITATIONS

- Small sample size may limit the generalizability of the results to broader population.
- Unequal distribution of participants across diagnostic categories.
- Female participants were less which may have affected gender-related differences.

RECOMMENDATIONS

- Include larger and diverse samples.
- Studies across various settings.
- Longitudinal studies to examine changes in usability and satisfaction.

DECLARATION BY AUTHORS

- *Ethical Approval:*

Approved

- *Acknowledgement:*

I convey my deepest gratitude to my guide and principal, Mr. Kurinji Chelvan S, for his guidance, encouragement, and astute feedback. I extend my heartfelt thanks to our staffs for their continuous teaching and support. I also thank my seniors for their unwavering support. I would like to wholeheartedly thank the participants for their resolute support and without whom this study would not have been possible.

- *Source of Funding:*

None

- *Conflict of Interest:*

The authors declare no conflict of interest.

REFERENCES

[1]. GBD 2021 Nervous System Disorders Collaborators. Global, regional, and national burden of disorders affecting the nervous system, 1990–2021: a systematic analysis for the Global Burden of Disease Study 2021. Lancet Neurol. 2024;23(5):344-81. doi:10.1016/S1474-4422(24)00038-3

[2]. India State-Level Disease Burden Initiative Neurological Disorders Collaborators. The burden of neurological disorders across the states of India: The Global Burden of Disease Study 1990–2019. Lancet Glob Health. 2021;9:e1129–44.

[3]. Das R, Paul S, Mourya GK, Kumar N, Hussain M. Recent trends and practices toward assessment and rehabilitation of neurodegenerative disorders: insights from human gait. Front Neurosci. 2022;16:859298.

[4]. World Health Organization. International Classification of Functioning, Disability and Health (ICF). Geneva: WHO; 2001.

[5]. Bonanno M, Saracino B, Ciancarelli I, et al., Assistive technologies for individuals with a disability from a neurological condition. Healthcare. 2025;13:1580.

[6]. World Health Organization, UNICEF. Global report on assistive technology. Geneva: WHO; 2022.

[7]. Alam F, Urme NA, Mamin FA. Commonly used assistive devices in neurological conditions. Int J Neurol Phys Ther. 2019;3(2):21–25.

[8]. Jiménez-Arberas E, Ordóñez Fernández FF. Discontinuation or abandonment of mobility assistive technology among people with neurological conditions. Rev Neurol. 2021;72:426–432.

[9]. Phillips B, Zhao H. Predictors of assistive technology abandonment. Assist Technol. 1993;5(1):36–45. 36

[10]. International Organization for Standardization. ISO 9241-11:2018 Ergonomics of human-system interaction — Part 11: Usability: Definitions and concepts. Geneva: ISO; 2018.

[11]. Squires LA, Williams N, Morrison VL. Matching and accepting assistive technology in multiple sclerosis: a focus group study with people with multiple sclerosis, carers and occupational therapists. J Health Psychol. 2019;24(9):1228–1240.

[12]. Martínez Pérez AM. Exploring barriers and facilitators to assistive technology use among Hispanics. University of Illinois at Chicago; 2016.

[13]. Juszczak M, et al., Effects of a powered exoskeleton in spinal cord injury. Top Spinal Cord Inj Rehabil. 2018;24(4):336–342.

ISSN No:-2456-2165 https://doi.org/10.38124/ijisrt/26aug1141

[14]. Senjam SS, et al., User satisfaction and dissatisfaction with assistive technology devices and services in India. Disabil Rehabil Assist Technol. 2022;17(8):892–901.
[15]. Borgnis, et al., Available assistive technology outcome measures: a systematic review. JMIR Rehabil Assist Technol. 2023;10:e51124
[16]. Zhao N, et al., Quality of life in Parkinson's disease. CNS Neurosci Ther. 2021;27(3):270–279.
[17]. Wressle E, Samuelsson K. User satisfaction with mobility assistive devices. Scand J Occup Ther. 2004;11(3):143–150.
[18]. Chen CL, et al., User satisfaction with orthotic devices and service in Taiwan. PLoS One. 2014;9(10):e110661.
[19]. Durham J, et al., Users' satisfaction with prosthetic and orthotic assistive devices in the Lao People's Democratic Republic. Disabil Rehabil Assist Technol. 2019;14(2):184–190. 37
[20]. Yurkewich A, et al., Myoelectric untethered robotic glove after stroke. J Rehabil Assist Technol Eng. 2020;7:1–14
[21]. Schmucker M, et al., Rollator usability from a nursing science perspective. Int J Nurs Stud Adv. 2025;9:100422
[22]. Magnusson L, Ahlström G. Patients' satisfaction with lower-limb prosthetic and orthotic devices in Africa. BMC Health Serv Res. 2017;17(1):102
[23]. Brady E, et al., Examining use and non-use of assistive technologies. Proc SIGCHI Conf Hum Factors Comput Syst. 2013;801–810.
[24]. Geilen BG, et al., Quality of wheelchair services in rural Bangalore district, India. Afr J Disabil. 2020;9:732.
[25]. Jiménez-Arberas E. Psychosocial impact of mobility assistive technology. Disabil Rehabil Assist Technol. 2020;15(5):531–538.
[26]. Karki J, et al., Access to assistive technology in Nepal, India and Bangladesh. Disabil Rehabil Assist Technol. 2023;18(1):8–16.
[27]. Ott J, et al., Scoping sex and gender in rehabilitation. Int J Equity Health. 2022;21:179
[28]. Kang D, et al., Usability tests for manual wheelchairs: a systematic review. J Clin Med. 2025;14(9):3184.