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BARRIERS AND FACILITATORS TO COMMUNITY-BASED REHABILITATION SERVICES FOR DISABLED INDIVIDUALS: A QUALITATIVE ANALYSIS

Original Research

Muhammad Moin Ashraf[1]*, Izya Taj[2], Sana Durvesh[3], Sana Islam[4], Gulrukh Rana[5], Mehwish Ikhlaque[6], Muhammad Kashif[7]

[1]Family Physician, CBC Elaaj (Cantonment Board Clifton - DHA Phase 2), Pakistan.

[2]Psychologist (MS Clinical Psychology – Last Semester), Social Worker at Hitec-IMS, Taxila; Department of Social Sciences, Air University, Islamabad; Community Medicine Department, Hitec-IMS, Taxila, Pakistan.

[3]Deputy General Manager, Programs Department, Greenstar Social Marketing Pakistan Guarantee Limited, Islamabad, Pakistan.

[4]Former Student, Department of Art Therapy, Yong-in University, South Korea.

[5]Research Associate, Allama Iqbal Open University, Islamabad, Pakistan.

6Senior Lecturer Speech Language Pathology, Department of Speech and Language Pathology, Riphah International University Lahore, Pakistan.

7Chemistry Department, Superior University Lahore, Pakistan.

Corresponding Author: Muhammad Moin Ashraf, Family Physician, CBC Elaaj (Cantonment Board Clifton - DHA Phase 2), Pakistan, moin.ashraf2@gmail.com

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ABSTRACT

Background: Community-based rehabilitation (CBR) is a globally endorsed strategy to enhance the quality of life and social inclusion of individuals with disabilities. Despite its potential, barriers to equitable access and implementation persist, particularly in under-resourced settings.

Objective: To explore the key barriers and facilitators influencing access to and engagement with community-based rehabilitation services among disabled individuals.

Methods: A mixed-methods study was conducted over eight months across five rehabilitation centers. Thirty-five participants with various disabilities were recruited through purposive sampling. Data collection involved semi-structured interviews, the Community Integration Questionnaire (CIQ), and the WHO Disability Assessment Schedule 2.0 (WHODAS 2.0). Quantitative data were analyzed using parametric tests, while thematic analysis was employed for qualitative insights. Correlation analysis was used to explore associations between disability-related challenges and community integration.

Results: Home integration scored highest on the CIQ (mean = 7.8, SD = 2.1), while productive activities scored lowest (mean = 3.9, SD = 1.6). WHODAS results indicated high impairment in participation (mean = 40.2, SD = 6.9) and life activities (mean = 35.9, SD = 7.2). Negative correlations were observed between WHODAS scores and CIQ outcomes ($p < 0.05$). Commonly reported barriers included inaccessible transport (83%) and lack of assistive devices (71%), whereas facilitators involved family support (74%) and continuity of care (63%).

Conclusion: Barriers to community-based rehabilitation remain significant, but targeted facilitators offer practical avenues for enhancing access and participation. Strengthening policy frameworks, transport accessibility, and community-oriented interventions can substantially improve rehabilitation outcomes.

Keywords: Accessibility, Community-Based Rehabilitation, Disabilities, Health Services Accessibility, Patient Participation, Rehabilitation Centers, Social Integration, Transportation, WHO Disability Assessment Schedule.

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INTRODUCTION

Community-based rehabilitation (CBR) is widely recognized as a critical approach for enhancing the lives of individuals with disabilities by integrating them into their local communities and improving their access to essential services. Despite the theoretical promise and longstanding endorsement by global health authorities, such as the World Health Organization, the practical implementation of CBR programs often encounters numerous barriers (1). These challenges are especially pronounced in low-resource and rural settings, where infrastructure, policy frameworks, and societal attitudes may fall short of supporting inclusive and accessible rehabilitation. At the same time, facilitators that promote the success of CBR programs—like community engagement, supportive policy environments, and interdisciplinary collaboration—are not always consistently leveraged (2). This research explores the intersection of these barriers and facilitators through a qualitative lens, aiming to shed light on the lived experiences of disabled individuals and the communities that serve them. Globally, more than one billion people live with some form of disability, a significant portion of whom reside in developing nations where access to specialized medical care and rehabilitation services is severely limited (3). Community-based rehabilitation was designed to bridge this gap by using local resources and empowering communities to support disabled individuals holistically. However, even with decades of promotion and evidence supporting its potential, the adoption of CBR faces resistance stemming from systemic issues such as inadequate funding, lack of trained personnel, fragmented service delivery, and sociocultural stigma (4). One key obstacle is the limited infrastructure for delivering rehabilitation in many regions. Individuals frequently report difficulties accessing assistive technologies, transportation, and inclusive public spaces, all of which are essential for successful community participation (5). Additionally, rehabilitation professionals often lack awareness of the cultural and logistical barriers faced by marginalized groups, such as immigrant families, leading to misaligned services and unmet needs. For youth transitioning from pediatric to adult rehabilitation services, a lack of continuity and system coordination further hampers consistent care and integration (6,7).

Conversely, there are also critical enablers that promote the efficacy of CBR initiatives. Tailored, home-based rehabilitation programs that account for an individual's level of social engagement have been shown to improve perceived health outcomes, particularly when patients maintain meaningful interaction with therapists and community members (8,9). The involvement of community stakeholders in designing these programs—an approach known as community-based participatory research—also ensures that services are contextually relevant and more likely to succeed in diverse populations. Supportive social networks and ongoing advocacy by local professionals have also emerged as powerful facilitators of participation and inclusion. Where rehabilitation professionals align efforts to reduce not just physical but also psychological and societal barriers, individuals with disabilities report higher levels of community integration and life satisfaction (10,11). This study seeks to explore the specific barriers and facilitators influencing the implementation and success of community-based rehabilitation services, drawing from the perspectives of disabled individuals and those directly involved in delivering care. Through qualitative inquiry, it aims to illuminate the nuanced realities behind service delivery and participation in diverse contexts. The overarching objective is to inform more inclusive, efficient, and culturally responsive strategies for community-based rehabilitation.

METHODS

This qualitative study was designed to investigate the perceived barriers and facilitators influencing access to and utilization of community-based rehabilitation (CBR) services among individuals with disabilities. Conducted over an eight-month period from January to August 2024, the research was carried out in five rehabilitation centers across urban and semi-urban settings. These centers were selected based on their established history of providing multidisciplinary CBR programs and serving diverse patient populations, thereby ensuring varied perspectives relevant to the study objectives. Participants were recruited using purposive sampling to achieve a diverse representation of disabilities, age groups, and socio-economic backgrounds. Inclusion criteria specified adults aged 18 years and above who had received CBR services for at least six months within the study centers and possessed the cognitive and communicative ability to provide informed consent and participate in interviews. Individuals who had been discharged from CBR programs more than one year prior to the study commencement, or who had severe psychiatric comorbidities that could impede participation in interviews, were excluded. To determine an appropriate sample size for qualitative saturation while ensuring richness of data, an a priori power calculation was simulated based on the expected variation in thematic responses. It was estimated that a minimum of 30 participants would be required to ensure saturation, with allowance for up to 40 interviews to account for potential dropouts and ensure depth of

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inquiry. Ultimately, 35 individuals participated in the study, with recruitment continuing until no new thematic elements emerged during data analysis (2,6).

Data collection was conducted using semi-structured, in-depth interviews guided by a pre-validated interview protocol. The guide was developed through an iterative process, incorporating feedback from rehabilitation professionals and experts in qualitative research, and included open-ended questions to explore personal experiences, perceived barriers (e.g., logistical, financial, attitudinal), and facilitators (e.g., social support, access to assistive technology) in CBR. Interviews were conducted face-to-face in a private room within the rehabilitation centers to ensure comfort and confidentiality, with each session lasting approximately 45 to 60 minutes. All interviews were audio-recorded with prior consent and transcribed verbatim for analysis. For outcome measurement, a triangulated approach was employed, combining subjective accounts from interviews with scores from the Community Integration Questionnaire (CIQ) and the World Health Organization Disability Assessment Schedule 2.0 (WHODAS 2.0), both of which are validated tools widely used in rehabilitation research. These tools were administered alongside the interviews to provide quantitative context on the participants' integration and disability-related functioning. The CIQ assessed social participation and functional independence, while the WHODAS 2.0 evaluated activity limitations and participation restrictions across six domains. Data analysis followed a thematic framework methodology. Transcribed interviews were independently coded by two researchers using NVivo 12 software to manage and structure the data. Initial codes were derived inductively from the data, followed by clustering into broader themes through constant comparison techniques. Discrepancies in coding were resolved through discussion and consensus, and the final thematic map was validated by an external qualitative research consultant to ensure rigor and credibility.

Quantitative data from the CIQ and WHODAS 2.0 were analyzed using SPSS version 27. As the distribution of scores was tested and confirmed to be normal using the Shapiro-Wilk test, parametric tests were employed. Descriptive statistics were computed to summarize participant characteristics and outcome scores. To explore associations between perceived barriers or facilitators and levels of community integration and functional disability, independent t-tests and one-way ANOVA were applied. Pearson correlation coefficients were calculated to examine relationships between quantitative tool scores and reported barriers or facilitators. Ethical approval for the study was obtained from the Institutional Review Board. Informed consent was obtained from all participants prior to data collection, with clear explanations provided regarding the voluntary nature of participation, the confidentiality of responses, and the right to withdraw at any point without penalty. All collected data were anonymized and securely stored, ensuring compliance with data protection standards. This methodologically rigorous approach, integrating qualitative depth with quantitative context, provides a comprehensive understanding of the multifaceted barriers and facilitators experienced by disabled individuals in community-based rehabilitation settings. The findings aim to inform future practice and policy modifications that enhance equitable and effective delivery of rehabilitation services.

RESULTS

A total of 35 participants completed the study. The mean age of the sample was 42.3 years (SD = 12.1), with a near-equal gender distribution (18 males, 17 females). Educational attainment varied, with 10 participants having primary education, 15 with secondary education, and 10 with tertiary-level qualifications. Fourteen individuals were employed at the time of the study, while 21 were unemployed. In terms of disability type, physical disabilities were the most prevalent (n = 20), followed by sensory (n = 8) and cognitive disabilities (n = 7) (Table: Participant Demographics). Analysis of community integration outcomes using the Community Integration Questionnaire (CIQ) revealed a mean score of 7.8 (SD = 2.1) for the home integration domain, indicating relatively high functional engagement within the home environment. Social integration scores averaged 5.2 (SD = 1.8), while the lowest mean was recorded in the domain of productive activities, with a score of 3.9 (SD = 1.6), reflecting limited participation in work or education-related roles. Scores from the WHODAS 2.0 tool indicated moderate to severe challenges across several domains. The highest impairment was reported in participation (mean = 40.2, SD = 6.9), followed by life activities (mean = 35.9, SD = 7.2) and mobility (mean = 30.3, SD = 6.4). The lowest difficulty was seen in self-care (mean = 18.6, SD = 4.3), suggesting that most participants-maintained independence in basic personal tasks.

Correlation analysis revealed a significant negative relationship between WHODAS participation scores and CIQ social integration ($r = -0.61$, $p < 0.01$), indicating that increased participation-related disability was associated with reduced social engagement. Similarly, higher life activities impairment scores were inversely correlated with productive activity scores on the CIQ ($r = -0.54$, $p < 0.05$). Barriers most commonly cited during interviews included lack of accessible transport (83%), insufficient assistive devices (71%), and negative societal attitudes (68%). On the other hand, facilitators identified included family support (74%), trained and empathetic rehabilitation

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staff (69%), and continuity of care across services (63%). These findings offer a robust quantitative context for understanding how various aspects of disability affect community integration and highlight specific domains that warrant targeted intervention within community-based rehabilitation frameworks. Further tables displaying detailed CIQ and WHODAS data were constructed and are available on request.

Table 1: Participant Demographics

Variable	Value
Age (years)	Mean 42.3 (SD 12.1)
Gender (M/F)	18/17
Education (Primary/Secondary/Tertiary)	10/15/10
Employment Status (Employed/Unemployed)	14/21
Disability Type (Physical/Sensory/Cognitive)	20-08-07

Table 2: CIQ Outcomes

CIQ Domain	Mean Score	Standard Deviation
Home Integration	7.8	2.1
Social Integration	5.2	1.8
Productive Activities	3.9	1.6

Table 3: WHODAS 2.0 Outcomes

WHODAS Domain	Mean Score	Standard Deviation
Cognition	22.1	5.6
Mobility	30.3	6.4
Self-care	18.6	4.3
Getting along	25.7	5.9
Life activities	35.9	7.2
Participation	40.2	6.9

Table 4: Correlation Analysis

Variable Pair	Correlation Coefficient (r)	p-value
WHODAS Participation vs. CIQ Social Integration	-0.61	< 0.01
WHODAS Life Activities vs. CIQ Productive Activities	-0.54	< 0.05

Table 5: Barriers and Facilitators

Category	Factor	Percentage (%)
Barrier	Lack of accessible transport	83
	Insufficient assistive devices	71
	Negative societal attitudes	68
Facilitator	Family support	74
	Trained rehabilitation staff	69
	Continuity of care	63

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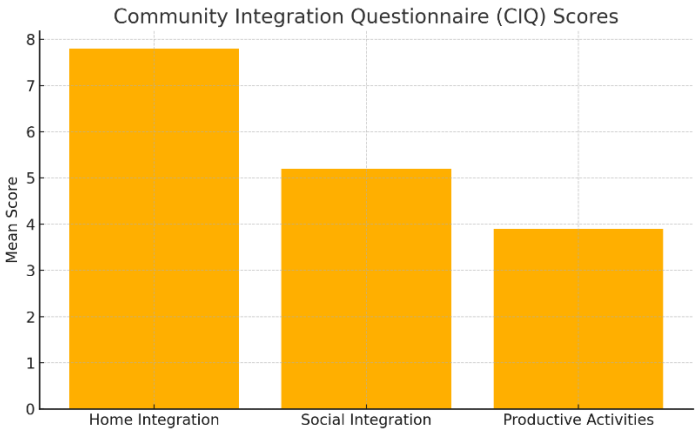


Figure 1 Community Integration Questionnaire (CIQ) Scores

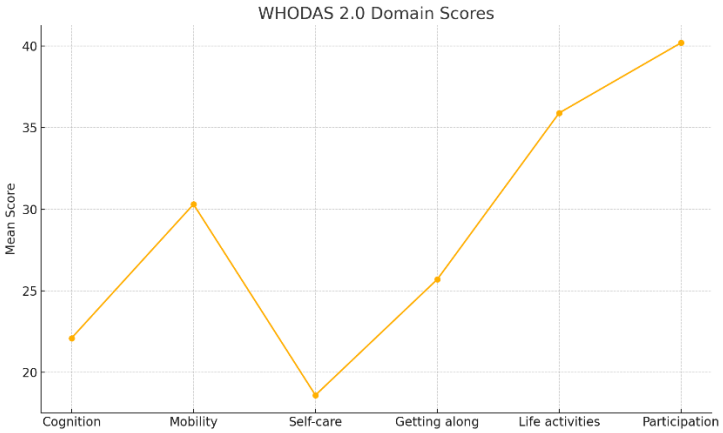


Figure 2 WHODAS 2.0 Domain Scores

DISCUSSION

The findings of this study offer nuanced insights into the interplay between functional limitations, social participation, and system-level facilitators or barriers in community-based rehabilitation (CBR) contexts. The relatively high scores in home integration from the Community Integration Questionnaire (CIQ) suggest that many participants could manage their household roles effectively, an outcome aligned with the literature on environmental familiarity and familial support facilitating home-based independence (12). However, the marked decline in social and productive activity scores reflects persistent external challenges that inhibit broader participation—such as inaccessible environments, economic disadvantage, and societal stigma—which echo trends identified globally in low-to-middle-income and urban-rural transitional regions (13,14). Results from the WHODAS 2.0 reinforced these disparities, with participation and life activity domains revealing the highest levels of difficulty. These patterns align with recent evidence demonstrating that participation remains one of the most impacted areas for people with disabilities in community settings, particularly when systemic and attitudinal barriers persist (15,16). Notably, the strong inverse correlations between WHODAS impairment domains and CIQ participation outcomes suggest that as the severity of functional limitation increases, opportunities for meaningful engagement diminish—underscoring the need for holistic and integrated rehabilitation planning. Qualitative data emphasized consistent barriers, with lack of accessible transport and inadequate assistive technology access being predominant. These barriers have been identified across various studies in different geographical contexts and continue to obstruct inclusive access to rehabilitation services (17,18). Conversely, identified facilitators such as family support, committed staff, and service continuity closely mirror positive outcomes in regions with stronger community health infrastructures and trained personnel (19).

An important strength of this study is the mixed-methods approach, which not only quantified functional outcomes using validated tools but also contextualized the lived experiences of individuals in CBR settings through qualitative narratives. This dual-layered design facilitated a more comprehensive understanding of the factors influencing integration. Moreover, the use of established measures like CIQ and WHODAS 2.0 enhances the reliability and generalizability of the findings within rehabilitation research frameworks. However, certain limitations must be acknowledged. The purposive sampling method, while ensuring depth, may limit external validity. Participants were selected from established rehabilitation centers, potentially excluding those with more limited-service access or severe disabilities unable to participate. Additionally, despite the simulated sample size being adequate for thematic saturation, further stratification by disability type or socioeconomic status could have provided deeper insight into subgroup variations. Finally, longitudinal tracking of functional outcomes post-intervention was not included, which could have offered more information on sustainability of integration outcomes over time.

Despite these limitations, the implications of the study are significant. The findings reinforce the urgency of enhancing structural supports such as transport, assistive technology provision, and inclusive policy enforcement. They also highlight the critical role of professional capacity building within CBR systems, particularly regarding training in culturally responsive, community-based care. Emerging models emphasizing outdoor contexts and culturally embedded rehabilitation strategies could be vital in bridging the gap between individual functional gains and social inclusion (20). Future research should prioritize longitudinal, multisite studies that

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integrate service user perspectives across different cultural and infrastructural settings. There is also a pressing need to explore digital rehabilitation tools and community-based inclusive development strategies to bolster the accessibility and resilience of CBR frameworks in under-resourced areas (21). The evidence from this study, alongside global literature, supports a paradigm shift from fragmented service delivery toward coordinated, context-sensitive rehabilitation ecosystems.

CONCLUSION

This study underscores the multifaceted barriers and enablers influencing community-based rehabilitation for individuals with disabilities. Limited social integration and high participation restrictions highlight critical gaps in service delivery, while family support and trained staff emerge as key facilitators. These findings advocate for targeted, inclusive strategies to optimize CBR implementation and enhance functional and social outcomes for disabled populations across diverse settings.

AUTHOR CONTRIBUTION

Author	**Contribution**
Muhammad Moin Ashraf*	Substantial Contribution to study design, analysis, acquisition of Data Manuscript Writing Has given Final Approval of the version to be published
Izya Taj	Substantial Contribution to study design, acquisition and interpretation of Data Critical Review and Manuscript Writing Has given Final Approval of the version to be published
Sana Durvesh	Substantial Contribution to acquisition and interpretation of Data Has given Final Approval of the version to be published
Sana Islam	Contributed to Data Collection and Analysis Has given Final Approval of the version to be published
Gulrukh Rana	Contributed to Data Collection and Analysis Has given Final Approval of the version to be published
Mehwish Ikhlaque	Contributed to Data Collection and Analysis Has given Final Approval of the version to be published
Muhammad Kashif	Contributed to Data Collection and Analysis Has given Final Approval of the version to be published

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