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THE ROLE OF COMMUNITY PARTICIPATION, HEALTH SYSTEM SUPPORT AND QUALITY OF REHABILITATION SERVICES FOR ADOLESCENTS WITH HANDICAPS IN KANO METROPOLIS, NIGERIA

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ABSTRACT

Adolescents with handicaps require effective rehabilitation services to improve their physical, psychological, and social functioning. However, inadequate community participation and weak health system support continue to affect the quality of rehabilitation services in many low- and middle-income countries. This study assessed the role of community participation, health system support, and quality of rehabilitation services for adolescents with handicaps in Kano Metropolis, Nigeria. A descriptive cross-sectional study design was adopted involving 200 caregivers selected through purposive sampling. Data were collected using a structured questionnaire and analyzed using descriptive statistics and chi-square tests at $p < 0.05$ significance level. Findings revealed that 73.5% of respondents reported inadequate community awareness programs, while 71.0% identified poor health system funding as a major challenge. In addition, 69.0% reported shortage of rehabilitation professionals and 74.5% indicated that quality rehabilitation services were limited by inadequate equipment and infrastructure. A significant association was found between community participation and utilization of rehabilitation services ($\chi^2 = 16.48$, $p = 0.002$). The study concluded that effective community involvement and improved health system support are essential for enhancing the quality and utilization of rehabilitation services for adolescents with handicaps. Strengthening community-based rehabilitation programs, increasing government funding, and improving rehabilitation infrastructure were recommended.

Keywords: Community participation, Health system support, Rehabilitation services, Adolescents with handicaps, Kano Metropolis, Nigeria

INTRODUCTION

Adolescents with handicaps constitute one of the most vulnerable populations requiring continuous healthcare support and rehabilitation services to improve their physical, emotional, cognitive, and social functioning. Rehabilitation services are essential components of healthcare systems because they assist individuals with disabilities in achieving maximum independence, participation, and quality of life (World Health Organization [WHO], 2023). Adolescence is a critical developmental stage characterized by rapid physical and psychosocial changes, and adolescents living with disabilities often face additional challenges related to mobility limitations, communication difficulties, educational exclusion, and social discrimination (Smith and Carter, 2023). Effective rehabilitation services such as physiotherapy, occupational therapy, speech therapy, psychosocial counseling, and assistive technologies are therefore necessary to support their overall development and integration into society (Musa and Abdullahi, 2023).

Globally, disability prevalence among children and adolescents has continued to increase due to congenital abnormalities, infectious diseases, injuries, malnutrition, and chronic health conditions (UNICEF, 2022). The WHO estimated that approximately 15% of the world's population lives with one form of disability, with a substantial proportion residing in low- and middle-income countries where healthcare systems remain weak and underfunded (WHO, 2023). In Sub-Saharan Africa, adolescents with handicaps experience major barriers in accessing rehabilitation services because of poverty, shortage of trained rehabilitation professionals, inadequate healthcare infrastructure, and weak policy implementation (Ibrahim and Yusuf, 2022). These barriers contribute significantly to poor health outcomes, reduced functional independence, and limited participation in educational and community activities.

Community participation plays a crucial role in improving rehabilitation outcomes among persons with disabilities. Community participation refers to the involvement of individuals, families, community groups, local organizations, and stakeholders in promoting disability inclusion, rehabilitation support, awareness creation, and healthcare decision-making processes (Abdullahi and Yusuf, 2021). Community participation encourages acceptance and social inclusion of adolescents with handicaps while reducing stigma and discrimination within society. Studies have shown that effective community involvement enhances continuity of rehabilitation care, improves healthcare-seeking behavior, and strengthens family support systems for adolescents with disabilities (Bello and Garba, 2022; Musa and Abdullahi, 2023). Community-based rehabilitation programs have also been identified as effective strategies for extending rehabilitation services to underserved populations and improving access to care at the grassroots level (WHO, 2023). Despite the recognized importance of community participation, many communities in developing countries still demonstrate poor awareness and negative attitudes toward disability and rehabilitation services. Social stigma, cultural misconceptions, discrimination, and lack of disability awareness continue to affect community support for adolescents with handicaps (Yahaya and Ibrahim, 2021). In Northern Nigeria particularly, traditional beliefs and misconceptions surrounding disability sometimes discourage families from seeking rehabilitation services or participating actively in community support programs (Garba and Ibrahim, 2021). Consequently, adolescents with disabilities often experience social isolation and poor access to rehabilitation services needed for their development and wellbeing.

Health system support is another important factor influencing the quality and accessibility of rehabilitation services. Effective rehabilitation service delivery depends on the

availability of trained healthcare professionals, rehabilitation infrastructure, assistive devices, funding, transportation systems, and integration of rehabilitation into primary healthcare services (Adebayo and Bello, 2020). Strong health systems improve accessibility, continuity, affordability, and quality of rehabilitation care for persons with disabilities. However, rehabilitation services in many low-income countries remain poorly integrated into healthcare systems, resulting in inadequate service delivery and poor patient outcomes (Usman and Bello, 2022). Studies conducted in Nigeria have reported severe shortages of physiotherapists, occupational therapists, speech therapists, and rehabilitation physicians, particularly in Northern regions of the country (Ibrahim and Yusuf, 2022).

Inadequate funding of rehabilitation services further contributes to poor service quality and limited access to rehabilitation care. Government health budgets in many developing countries prioritize communicable diseases and emergency healthcare services, while rehabilitation services receive limited financial attention (Ojo and Abdullahi, 2020). As a result, rehabilitation facilities often lack adequate equipment, assistive technologies, and trained personnel necessary for effective service delivery. Long waiting times, overcrowding, and poor referral systems also reduce the efficiency of rehabilitation services and negatively affect patient satisfaction (Adebayo and Bello, 2020). In addition, poor integration of rehabilitation into primary healthcare systems limits early identification and management of disabilities among adolescents.

The quality of rehabilitation services is an important determinant of rehabilitation outcomes among adolescents with handicaps. Quality rehabilitation services involve timely access to care, availability of competent professionals, appropriate rehabilitation equipment, patient-centered approaches, continuity of care, and effective communication between healthcare providers and caregivers (Smith and Carter, 2023). High-quality rehabilitation services improve functional recovery, social participation, educational performance, and psychological wellbeing among adolescents with disabilities. However, evidence suggests that many rehabilitation facilities in Nigeria experience inadequate infrastructure, poor staffing, and insufficient rehabilitation materials, all of which reduce the quality of care provided to adolescents with handicaps (Garba and Ibrahim, 2021).

Kano Metropolis is one of the most populous urban centers in Northern Nigeria and serves as a major commercial and healthcare hub. The metropolis consists of eight Local Government Areas including Kano Municipal, Dala, Gwale, Tarauni, Fagge, Nasarawa, Ungogo, and Kumbotso. Kano hosts several public and private healthcare institutions providing rehabilitation services such as physiotherapy, occupational therapy, and psychosocial rehabilitation. However, increasing population growth, urbanization, poverty, and rising prevalence of disabilities have placed additional pressure on available rehabilitation facilities within the metropolis (Usman and Bello, 2022). Existing rehabilitation centers often struggle with inadequate funding, insufficient rehabilitation professionals, and poor community support systems.

Although several studies have examined disability and rehabilitation services in Nigeria, limited studies have specifically focused on the combined role of community participation, health system support, and quality of rehabilitation services for adolescents with handicaps in Kano Metropolis. Understanding these factors is important for developing effective interventions aimed at improving rehabilitation accessibility, service quality, and health outcomes among adolescents with disabilities. This study therefore seeks to assess the role of community participation, health system support, and quality of rehabilitation services for adolescents with handicaps in Kano Metropolis, Nigeria.

MATERIALS AND METHODS

Study Design

A descriptive cross-sectional research design was employed for this study to assess the role of community participation, health system support, and quality of rehabilitation services for adolescents with handicaps in Kano Metropolis, Nigeria. The descriptive cross-sectional design was considered appropriate because it allows researchers to collect data from a defined population at a single point in time while examining relationships between variables without manipulating the study environment (Creswell and Creswell, 2018; Babbie, 2021). This design has been widely used in healthcare accessibility and rehabilitation studies because it provides an efficient approach for assessing prevalence, perceptions, and associated factors affecting healthcare utilization among vulnerable populations (Field, 2018).

The design also enabled the collection of quantitative data regarding caregivers' experiences with rehabilitation services, level of community participation, and perceived health system support. Furthermore, the descriptive cross-sectional approach allowed the researcher to identify significant associations between community participation, health system support, and rehabilitation service utilization among adolescents with handicaps.

Study Area

The study was conducted in Kano Metropolis, Kano State, Nigeria. Kano Metropolis comprises eight Local Government Areas (LGAs), namely Kano Municipal, Dala, Gwale, Tarauni, Fagge, Nasarawa, Ungogo, and Kumbotso. Kano is one of the largest and most densely populated cities in Northern Nigeria and serves as a major center for commerce, education, and healthcare services (Garba and Ibrahim, 2021). The metropolis hosts several public and private hospitals, rehabilitation centers, physiotherapy clinics, and community health facilities that provide rehabilitation services for persons with disabilities. Rehabilitation services available in the area include physiotherapy, occupational therapy, speech therapy, psychosocial rehabilitation, and assistive device support. Despite the presence of these facilities, rehabilitation service accessibility remains inadequate due to increasing population pressure, shortage of rehabilitation professionals, poor infrastructure, and limited community support systems (Usman and Bello, 2022). The study area was selected because of the increasing number of adolescents living with disabilities and the growing demand for rehabilitation services within Kano Metropolis.

Study Population

The target population for the study consisted of caregivers of adolescents with handicaps receiving rehabilitation services in selected hospitals and rehabilitation centers within Kano Metropolis. Adolescents aged between 10 and 19 years who had physical, sensory, intellectual, or developmental disabilities and had attended rehabilitation programs for at least six months were considered eligible through their caregivers.

Caregivers included parents, guardians, and relatives directly involved in the healthcare and rehabilitation decisions of the adolescents. Caregivers were selected because they possess firsthand knowledge regarding rehabilitation service

accessibility, community support, and health system challenges affecting adolescents with handicaps (UNICEF, 2022; Bello and Garba, 2022).

Sample Size Determination
The sample size for the study was 200 respondents. The sample size was considered adequate for descriptive and inferential statistical analysis involving chi-square tests and percentage distributions. Similar healthcare accessibility and rehabilitation studies have used comparable sample sizes to examine barriers affecting rehabilitation utilization among vulnerable populations (Ibrahim and Yusuf, 2022; Musa and Abdullahi, 2023). The selected sample size also enhanced the representativeness and reliability of the study findings within the study area.

Sampling Technique
A purposive sampling technique was employed to recruit respondents for the study. This non-probability sampling method was considered appropriate because the study specifically targeted caregivers of adolescents with documented handicaps who were actively utilizing rehabilitation services. Selected hospitals and rehabilitation centers within Kano Metropolis served as recruitment sites for the respondents.
Respondents who met the inclusion criteria and voluntarily consented to participate were enrolled into the study until the required sample size was attained. Purposive sampling enabled the researcher to obtain relevant information directly from respondents who possessed adequate experience and knowledge concerning rehabilitation service utilization and health system support (Babbie, 2021).

Inclusion Criteria
The following individuals were included in the study:
i. Caregivers of adolescents aged 10–19 years with documented handicaps.
ii. Caregivers whose adolescents had attended rehabilitation services for at least six months.
iii. Respondents willing to provide informed consent for participation.

Exclusion Criteria
The following individuals were excluded from the study:
i. Caregivers of adolescents not currently receiving rehabilitation services.
ii. Caregivers who declined participation in the study.
iii. Respondents with incomplete questionnaire responses.

Data Collection Instrument
Data were collected using a structured questionnaire adapted from World Health Organization rehabilitation assessment tools and previous disability-related studies (WHO, 2023; Smith and Carter, 2023). The questionnaire consisted mainly of close-ended questions structured using Likert-scale and dichotomous response formats.
The instrument was divided into four sections:
i. Section A: Socio-demographic characteristics of respondents and adolescents.
ii. Section B: Community participation factors affecting rehabilitation services.
iii. Section C: Health system support and quality of rehabilitation services.
iv. Section D: Rehabilitation service utilization patterns among adolescents with handicaps.
The questionnaire was prepared in English language and translated into Hausa language to improve comprehension among respondents who were not fluent in English.

Validity of the Instrument
Content and face validity of the questionnaire were established through expert review by specialists in public health, rehabilitation sciences, and health policy research. Corrections and modifications suggested by the experts were incorporated into the final version of the instrument to ensure that it adequately measured the objectives and variables of the study (Bolarinwa, 2015).

Reliability of the Instrument
A pilot study was conducted among 20 caregivers in a rehabilitation center outside the selected study sites to determine the reliability of the questionnaire. Data obtained from the pilot study were analyzed using Cronbach's alpha reliability test. The instrument produced a Cronbach's alpha coefficient of 0.84, indicating good internal consistency and reliability for data collection (Tavakol and Dennick, 2011; Bolarinwa, 2015).

Data Collection Procedure
Data collection was carried out over a period of four weeks using trained research assistants familiar with the study objectives and ethical considerations. Permission was obtained from the management of selected hospitals and rehabilitation centers before commencement of data collection.
Respondents were approached during clinic visits and rehabilitation sessions. The purpose of the study was explained to them, and informed consent was obtained before administration of questionnaires. Respondents were assured of confidentiality, anonymity, and voluntary participation throughout the study.

Ethical Consideration
Ethical approval for the study was obtained from the appropriate Health Research Ethics Committee in Kano State. Permission was also obtained from selected healthcare facilities and rehabilitation centers involved in the study. Respondents participated voluntarily, and informed consent was obtained prior to data collection. Confidentiality of information provided by respondents was maintained, and no identifying information was included in the analysis or reporting of findings. The study adhered to ethical principles guiding human subject research (WHO, 2023).

Data Analysis
Completed questionnaires were checked for completeness, coded, and entered into the Statistical Package for Social Sciences (SPSS) version 25 for analysis. Descriptive statistics such as frequencies, percentages, means, and standard deviations were used to summarize socio-demographic characteristics and study variables. Inferential statistics using chi-square tests were employed to determine associations between community participation and rehabilitation service utilization among respondents. Statistical significance was set at $p < 0.05$ (Field, 2018; Adebayo and Bello, 2020).

RESULTS AND DISCUSSION
This section presents the findings obtained from the study on the role of community participation, health system support, and quality of rehabilitation services for adolescents with handicaps in Kano Metropolis, Nigeria. The results are presented using descriptive statistics including frequencies

and percentages, while inferential statistics were used to determine associations between selected variables. The findings are presented in tables alongside descriptions and discussions in relation to previous studies.

Socio-Demographic Characteristics of Respondents

The socio-demographic characteristics of respondents were analyzed to determine the distribution of caregivers according to age, gender, educational level, relationship to the adolescent, and duration of rehabilitation attendance. Understanding these characteristics is important because socio-demographic factors may influence healthcare-seeking behavior, rehabilitation utilization, and level of participation in rehabilitation activities. Table 1: Socio-Demographic Characteristics of Respondents (n = 200)

Results

This section presents the findings obtained from the study on the role of community participation, health system support, and quality of rehabilitation services for adolescents with handicaps in Kano Metropolis, Nigeria.

Socio-Demographic Characteristics of Respondents

The socio-demographic characteristics of respondents were analyzed.

Table 1: Socio-Demographic Characteristics of Respondents (n = 200)

Variable	Frequency	Percentage (%)
20–29 years	30	15.0
30–39 years	80	40.0
40–49 years	56	28.0
50 years and above	34	17.0
Male	80	40.0
Female	120	60.0
No formal education	26	13.0
Primary education	40	20.0
Secondary education	78	39.0
Tertiary education	56	28.0
Parent	140	70.0
Guardian	40	20.0
Relative	20	10.0

The results of table 1 showed that the majority of caregivers were aged between 30–39 years (40.0%), followed by those aged 40–49 years (28.0%). Respondents aged 20–29 years constituted 15.0%, while those aged 50 years and above accounted for 17.0%. Female caregivers represented the majority of respondents with 60.0%, whereas males accounted for 40.0%. Regarding educational status, most respondents had secondary education (39.0%), followed by tertiary education (28.0%), primary education (20.0%), and no formal education (13.0%). In terms of relationship to the adolescents, parents constituted the majority of respondents (70.0%), while guardians and relatives represented 20.0% and 10.0% respectively.

The findings indicate that most caregivers were within the economically active age group of 30–39 years, suggesting active parental involvement in rehabilitation care and healthcare decision-making for adolescents with handicaps. This age distribution may positively influence rehabilitation service utilization because caregivers within this age category are more likely to possess the physical, emotional, and financial capacity required to support rehabilitation attendance and continuity of care. Similar findings were reported by Bello and Garba (2022), who observed that caregivers within productive age groups are more actively involved in rehabilitation activities among adolescents with disabilities in Northern Nigeria.

The predominance of female caregivers in the study further suggests that mothers and female guardians play major caregiving roles for adolescents with handicaps. This finding is consistent with Abdullahi and Yusuf (2021), who reported that women are often primary caregivers responsible for healthcare coordination and rehabilitation follow-up among children and adolescents with disabilities. Additionally, the relatively high level of educational attainment among respondents may contribute to improved awareness and healthcare-seeking behavior regarding rehabilitation services. Educated caregivers are more likely to understand rehabilitation needs, adhere to treatment plans, and participate actively in community-based rehabilitation programs (Smith and Carter, 2023).

Community Participation Factors Affecting Rehabilitation Services

Community participation is an important determinant of rehabilitation accessibility and quality among adolescents with handicaps. The study assessed respondents' perceptions regarding community awareness, support systems, stigma, and community-based rehabilitation initiatives affecting rehabilitation service utilization.

Table 2: Community Participation Factors Affecting Rehabilitation Services (n = 200)

Community Participation Factors	Frequency	Percentage (%)
Inadequate community awareness programs	147	73.5
Poor community support	140	70.0
Lack of community-based rehabilitation programs	136	68.0
Social stigma and discrimination	132	66.0
Poor family involvement	124	62.0

The findings revealed that inadequate community awareness programs were the most commonly reported community participation challenge, identified by 73.5% of respondents. Poor community support for adolescents with handicaps accounted for 70.0%, while lack of community-based rehabilitation programs was reported by 68.0% of respondents. In addition, 66.0% identified social stigma and discrimination as barriers affecting rehabilitation participation, while poor family involvement was reported by 62.0% of respondents (table 2).

The findings demonstrate that inadequate community awareness and poor social support significantly affect rehabilitation service utilization among adolescents with handicaps in Kano Metropolis. Limited public awareness regarding disability and rehabilitation services may reduce community involvement, increase misconceptions, and discourage caregivers from seeking rehabilitation care for adolescents with disabilities. Musa and Abdullahi (2023) similarly reported that poor disability awareness contributes to low rehabilitation participation and social exclusion among persons with disabilities in Northern Nigeria. Community-based awareness programs are therefore essential for promoting inclusion, reducing stigma, and improving rehabilitation outcomes.

The high proportion of respondents reporting social stigma and discrimination also suggests persistent negative attitudes toward disability within the community. Social stigma may limit participation of adolescents with handicaps in educational, recreational, and healthcare activities, thereby affecting their psychosocial wellbeing and rehabilitation progress. Yahaya and Ibrahim (2021) observed that stigma and cultural misconceptions remain major barriers to disability inclusion and rehabilitation service utilization in Kano State. Furthermore, inadequate family involvement may weaken continuity of rehabilitation care because family support is critical for treatment adherence and emotional support during rehabilitation processes (Smith and Carter, 2023).

Health System Support and Quality of Rehabilitation Services

Health system support is essential for ensuring accessibility, efficiency, and quality of rehabilitation services. The study examined respondents' perceptions regarding funding, rehabilitation workforce capacity, infrastructure, and integration of rehabilitation services into healthcare systems.

Table 3: Health System Support and Quality of Rehabilitation Services (n = 200)

Health System Factors	Frequency	Percentage (%)
Inadequate rehabilitation equipment	149	74.5
Inadequate funding	142	71.0
Shortage of rehabilitation professionals	138	69.0
Long waiting time in hospitals	135	67.5
Poor integration into primary healthcare	128	64.0

The findings of table 3 showed that inadequate rehabilitation equipment was the most frequently reported health system challenge, affecting 74.5% of respondents. Inadequate funding of rehabilitation services was reported by 71.0%, while shortage of rehabilitation professionals accounted for 69.0%. Long waiting time in hospitals constituted 67.5%, whereas poor integration of rehabilitation services into primary healthcare accounted for 64.0% of respondents.

The results indicate that weak health system support negatively affects the quality and accessibility of rehabilitation services for adolescents with handicaps. Inadequate rehabilitation equipment and insufficient funding may limit effective diagnosis, treatment, and continuity of rehabilitation care. Ojo and Abdullahi (2020) reported that poor government investment in rehabilitation services contributes significantly to inadequate healthcare infrastructure and poor rehabilitation outcomes in Nigeria. Similarly, Usman and Bello (2022) emphasized that insufficient financing of rehabilitation units limits availability of assistive devices, therapy equipment, and rehabilitation materials needed for quality service delivery.

The shortage of rehabilitation professionals observed in this study further highlights the workforce challenges affecting rehabilitation services in Northern Nigeria. Limited availability of physiotherapists, occupational therapists, speech therapists, and rehabilitation physicians may increase patient workload, prolong waiting times, and reduce quality of care. Ibrahim and Yusuf (2022) similarly found that workforce shortages remain one of the greatest barriers to rehabilitation service delivery in low-resource settings. Poor integration of rehabilitation into primary healthcare systems may also reduce accessibility of early rehabilitation interventions for adolescents with disabilities, thereby affecting long-term rehabilitation outcomes (Adebayo and Bello, 2020).

Association between Community Participation and Rehabilitation Service Utilization

The study further examined the relationship between community participation and rehabilitation service utilization among adolescents with handicaps in Kano Metropolis.

Table 4: Association between Community Participation and Rehabilitation Service Utilization

Community Participation	Regular Utilization	Poor Utilization	Total
Low participation	26	84	110
Moderate participation	38	32	70
High participation	24	16	40
Total	88	132	200

Chi-square result for Table 3.4: $\chi^2 = 16.48$, $p = 0.002$

The results from table 4 showed that caregivers with low community participation had the highest proportion of poor rehabilitation service utilization, with 84 respondents compared to 26 respondents who utilized services regularly.

Among respondents with moderate community participation, 38 reported regular utilization while 32 reported poor utilization. Similarly, among respondents with high community participation, 24 reported regular utilization and 16 reported poor utilization. The chi-square analysis indicated a statistically significant association between community participation and rehabilitation service utilization ($\chi^2 = 16.48$, $p = 0.002$).

The findings indicate that community participation significantly influences rehabilitation service utilization among adolescents with handicaps. Caregivers with higher levels of community participation demonstrated better rehabilitation service utilization compared to those with lower participation levels. This suggests that active community involvement, awareness programs, and social support systems positively influence healthcare-seeking behavior and adherence to rehabilitation schedules. Abdullahi and Yusuf (2021) similarly reported that community participation improves continuity of rehabilitation care and enhances social inclusion of adolescents with disabilities.

The statistically significant relationship observed in this study also emphasizes the importance of strengthening community-based rehabilitation initiatives and disability advocacy programs within Kano Metropolis. Increased community participation may reduce stigma, improve caregiver support, and enhance accessibility of rehabilitation services. Smith and Carter (2023) found that community engagement and disability awareness programs significantly improve rehabilitation attendance and treatment outcomes among families of persons with disabilities. Therefore, promoting inclusive community support systems remains essential for improving rehabilitation service quality and utilization among adolescents with handicaps.

CONCLUSION

The study concluded that community participation and health system support significantly influence the quality and utilization of rehabilitation services for adolescents with handicaps in Kano Metropolis, Nigeria. Inadequate community awareness programs, poor social support, shortage of rehabilitation professionals, insufficient funding, and inadequate rehabilitation equipment were identified as major barriers affecting rehabilitation service delivery. The study also found a statistically significant association between community participation and rehabilitation service utilization, indicating that increased community involvement improves rehabilitation attendance and continuity of care. Strengthening community-based rehabilitation programs, improving healthcare funding, increasing rehabilitation workforce capacity, and promoting disability awareness campaigns are essential for enhancing rehabilitation service quality and accessibility among adolescents with handicaps in Kano Metropolis.

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