

Disability Profile and Accessibility Limitations Among Persons with Physical Disability in Nigeria

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Abstract

To evaluate disability profile and accessibility limitations among Persons Living with Disabilities (PLWDs) in Nigeria. 61 PLWDs (44 men, 17 women) consented for this study. World Health Organization Disability Assessment Schedule 2.0, Facilitators and Barriers Survey for People with Mobility Limitations version 2, Barthel Index, and Medical Expenditure Panel Survey Questionnaires were used to obtain data on physical disability profile, level of access barriers, activities of daily living and quality of access to health care respectively. A proforma was used to collect information on socio-demographic characteristics. Data were analyzed using descriptive and inferential statistics. Alpha level set at $p < 0.05$. Prevalence of mobility, visual and hearing disability were 60.7%, 21.3% and 6.6% respectively, there was 11.5% rate of functional limitation, while mild difficulty with 'cognition' and 'life activities' were reported among 96.7% and 65.6% of the respondents. Also, 24.6% of the respondents had partial mobility dependence. There was low quality of access to health care (67.2%), and high access barrier to home environment (73.8%) and transportation (93.4%). PLWDs in Nigeria have high mobility disability and face barriers in accessing healthcare, transportation and environment.

Keywords: Disability, Accessibility, Limitations, Medical Expenditure Panel Survey Questionnaires

1. Research Background

Disability remains a contested concept, assuming different meanings in different communities and contexts (Linton, 1998; Goodley, 2011). As such, disability is multifaceted, multidimensional, and dynamic (WHO, 2011). There are a number of theoretical methods developed to help facilitate understanding of disability as a

construct, but has resulted in significant inconsistencies with respect to its definition, measurement and analysis (Altman, 2008; Loeb et al., 2008; Meade et al., 2008). One of the models commonly used in health research is the medical model, which is premised on the biomedical perception of disability, and it links disability description to an individual's physical body and its consequences on the individual's quality of life [7].

The number of people in the world with disabilities are growing [3]. In the WHO and the World Bank, world first joint report on disability, it was speculated that over a billion people globally experience some form of disability, which account for about 15% of the world's population [3]. The WHO and the World Bank reports indicate an upsurge from an earlier estimate that about 10% of the world's population are people with physical disabilities, especially among the most underserved groups [8]. Another report confirms that a vast majority of People Living with Disabilities (PLWDs) live in low-income countries and most of them are very poor [9].

People living with disabilities often lacks adequate access to primary healthcare, hospital care, and long-term care services, as well as, opportunities to engage in preventive healthcare activities [8]. In addition, PLWDs often feel discriminated against and stigmatized even within health facilities [10]. It is reported that physicians sometimes focus inappropriately on their disability, per se, rather than on the health problems with which they present [11,12].

In the developed countries such as the United States, Britain, and New Zealand [13], there are efforts to evaluate accessibility and perceived quality of healthcare services for PLWDs. In these countries, accessibility to health care has become a civil rights issue for many PLWDs (CRPD, 2006). Access to health care means having timely use of personal health services to achieve the best health outcome [14] and it essentially requires gaining entry into the health care system, getting access to sites of care where patients can receive needed services and finding provider who meet the needs of individual patients and with whom patients can develop a relationship based on mutual communication and trust [14]. Unfortunately, access to health care remains a significant challenge for PLWDs in many low-and-middle income countries [3]. Thus, health care facility accessibility remains a front burner issue among researchers and policy makers in some climes [3].

Nigeria has a significant number of people with disabilities. According to World Report [15] on disability, about 25 million Nigerians had at least one disability, while 3.6 million of these had very significant difficulties in functioning. Also, the 2006 Nigerian census reported 3,253,169 people with disabilities, which translate to 2.32% of the total population of 140,431,790 in that year [16]. Still Nigeria lacks vitals details regarding the prevalence and pattern of disability in the country. For example, the Centre for Citizens with Disabilities claims that Nigeria census did not capture the full extent of disability [17]. The aim of this study was to evaluate disability profile and accessibility to health care among PLWDs in selected communities in Nigeria.

2. Materials and Methods

2.1 Type of Research

The method of this research is based on a door-to-door and street-based cross-sectional survey.

2.2 Method

A door-to-door and street-based cross-sectional survey of consenting PWPDs was carried out. The PLWDs were residents of two selected communities in Osun State, South-western, Nigeria. Two Local Government Areas (LGAs); that is, Ife Central and Ife North LGAs were purposively selected to represent urban and rural settings. Ife Central LGA has its headquarters in the city of Ile Ife, while, Ife North LGA is the administrative division that oversee seven rural communities commonly called Origbomeje (Ipetumodu, Eduabon, Moro, Asipa, Yakoyo, Akinlalu and Isope) with its headquarters in Ipetumodu [18,19]. The Origbomeje communities were purposively chosen for this study based on certain features that are characteristic of rural settings in Nigerian context. These include having small population densities and settlement size, and lack of infrastructural development and access to health services. Predominantly, the residents of these communities were Yorubas, who were mostly farmers, traders and artisans. Three of the Origbomeje communities (Edunabon, Ipetumodu and Moro) were selected for survey based on their larger population.

We employed cross-sectional survey method previously described by Mbada et al [20], where three political or electoral wards were randomly selected from each of the three communities. A political ward in the Nigerian context are administrative divisions within a LGA created for the purpose of enumeration or for electoral purposes, but seems to have been found useful for research. Households within each of these political wards were considered as the Primary Sampling Unit (PSU). In selecting the PSUs, balloting was used to choose the first house and every other or alternate house was consecutively enlisted. However, the street-based component of the study was only carried out in Ife central LGA where a number of PLWDs live as street urchins. Every consenting PLWD who reportedly was 18 years and older and resident in these communities for no less than twelve months were surveyed in each of the PSUs, until the sample size calculated for this study was attained. Excluded were PWPDs with obvious intellectual and mental challenges.

2.3 Formula

The determination of sample size for this study was based on the formula's bellow. N is the sample size for the study, p is a pre-study estimate of the proportion to be measured, Z_{crit} is the standard normal deviate corresponding to selected significance criterion 0.05 (i.e.1.960), and D is the total width of the expected confidence interval. Thus, a total of 61 PLWDs (44 men, 17 women) consented for this study.

$$N = 4(Z_{crit})^2 * p * p(1 - p) / D^2(pers.1)$$

$$N = [(4(1.96)^2 * 0.8 * (1 - 0.8)) / [(0.2)^2]] (\text{pers.2})$$

2.4 Survey Instrument

The survey instrument used in this study were WHODAS 2.0 – Is a practical, generic assessment instrument that can measure health and disability at population level or in clinical practice [22]. WHODAS 2.0 captures the level of functioning in six domains of life. These are cognition (i.e. understanding and communicating), mobility (i.e. moving and getting around), self-care (i.e. attending to one's hygiene, dressing, eating and staying alone), getting along (i.e. interacting with other people), life activities (i.e. domestic responsibilities, leisure, work and school) and participation (i.e. joining in community activities, participating in society) [49]. The WHODAS was used to assess physical disability profile of the PWPDs.

Barthel Index of Activities of Daily Living (ADLs), which was first developed in 1965 by Mahoney et al [23] and modified by Granger et al [24], measures functional disability by assessing performance in 10 ADLs. The activities on the scale can be categorized according to self-care (feeding, grooming, bathing, dressing, bowel and bladder care and toilet use) and mobility (ambulation, transfers, and stair climbing). The scoring of the tool is based on a five-point increments, with a maximal score of 100 indicating that an individual is fully independent in physical functioning, and a lowest score of 0 representing a total dependence or bed-ridden state [25]. This tool was used to evaluate activities of daily living among PWPDs.

Medical Expenditure Panel Survey Questionnaire (the Adult self-administered questionnaires component) was used to evaluate access to health care among the PWPDs. This tool was developed in the United State of America in 1977 with the name National Medical Care Expenditure Survey, and then it was renamed as National Medical Expenditure Survey (NMES) before its current name. The instrument has been continually updated and improved by the Agency for Health Research and Quality (AHRQ) [26]. MEPS was used to collect data on accessibility to health services among the PLWDs.

Facilitators and barriers survey/ mobility questionnaires was used to evaluate accessibility barriers among PWPDs. The FABS-Mv2 investigates the effects of environmental facilitators and barriers on participation for individuals with disability. This subjective self-report survey asks questions about features of their communities that may serve as barriers to or facilitators of participation. [27]. The FABS-M includes questions on built environmental features (e.g., ramps, curb cuts, room temperatures), natural environmental features (e.g., terrain, weather, noise), and social support/attitudes at various sites in the community. Examples of sites assessed in the FABS-Mv2 are grocery stores, doctors' offices, places of worship, hotels, and public parks. The FABS-Mv2 also includes a brief demographic survey called the Characteristic of Respondents (CORE) Survey [27].

In addition, a structured proforma was used to collect information on socio-demographic characteristics. Ethical approval was obtained from Health Research and

Ethics Committee (HREC) of the institution of public health, Obafemi Awolowo University Ile-Ife, Nigeria. The purpose of the study was explained to the respondents and informed consent was sought. Respondents were assured that their responses will remain strictly confidential and that their personal details will be kept anonymous. The questionnaires used in this study were applied both on self-and researcher administration basis owing to the peculiarity of the population.

Data was summarized using descriptive statistics of mean, standard deviation and percentages. Inferential statistics of Chi-Square test was used to test the association between level of disability and accessibility to health care. Alpha level was set at $p < 0.05$. IBM SPSS Statistics for Windows, Version 22.0. Armonk, NY: IBM Corp. IBM Corp, was used for the analysis.

3. Result and Discussion

A majority of the PLWDs in this study were males (72.1%), single (50.8%), without formal education (63.9%), of lower status (77%) and were within the 31 to 50 years (54.1%) (table 1). Table 2 shows the pattern of physical disability, level of disability and mode of transportation of the respondents. The results indicate that 21.3% of the respondents were visually disabled, 60.7% had physical disability while 11.5% reported functional limitation. Based on the analysis of WHODAS, 96.7% reported mild difficulty with cognition. 73.8% and 23.0% reported mild difficulty and moderate difficulty with mobility. Majority of the respondents reported mild difficulty with self-care (90.2%), relationship with others (82.0%), and life activities (65.6%). Also, 19.7% of the respondents reported mild difficulty with participation. Overall, 93.4% of the respondents reported mild difficulty based on WHODAS total score (table 3). Table 4 shows the results on quality of access to health care among the respondents. The rates for low and moderate quality of access to health care were 67.2% and 32.8%. Results on evaluation of activities of daily living among the respondents is presented in table 5. The rates for occasional bowel and bladder incontinence were 1.6% and 31.1%. Most of the respondents were independent and would require no care givers for grooming (90.2%), feeding (88.5%), transfer (70.5%), mobility; (72.1%), dress self (72.2%) and bath self (93.4%). Table 6 shows the level of access barriers among the respondents. Majority of the respondents reported high home environment (73.8%), community environment (93.4%), community accessibility (54.1%) and transportation (93.4%) accessibility barriers respectively. Table 7 shows the association between disability level and quality of access to health care. The result show that there was no significant association between the level of disability and quality of access to health care in this study ($p > 0.05$).

This study evaluated disability profile and accessibility to health care among Nigerian PLWDs from selected communities. The demographic indicators revealed that the PWPDs in this study were majorly young and middle age men without basic education and without family life. Also, the PWPDs largely had no formal employment. These findings are consistent with reports from disability and poverty literature, which indicate

that people with disabilities experience a higher risk of not being gainfully employed than the non-disabled population [28]. Similarly, the 2010 Ghana census report show that people with disabilities had low education and less employment opportunities [29]. In addition, a World Health Organization [3] report indicates that people affected by disabilities are at an increased risk for poor health outcomes, lower education attainment, reduced employment and earning potential, living in poverty, and higher dependency on others. This present study confirms anecdotes and reports that PWPDS in Africa often cannot get an education or even a job to survive, and often end up as homeless on the street [30]. Ochola [30], states that more than 80 million African children lack access to healthy shelter, and 16 million of these children are living on the streets. Thus, disability in Africa is homeless, while it is institutionalized in most developed climates. PWPDS are a significant part of street begging in Nigeria, and as such, street begging has become a social problem that is a source of concern to all [31].

The result of this study shows that the PWPDS typically have a mix of visual, hearing and mobility disability, as well as functional limitations. However, mobility followed by visual disability were the most prevalent impairments. Similar pattern of impairment was reported in another study from Kumasi Metropolis of Ghana, where PWPDS were reported to generally face more mobility impairment [32]. This study's finding is also consistent with previous reports indicating that mobility impairment is the commonest form of impairment among PWPDS. Haruna [33], asserts that people with disability are bound to face different mobility or travel difficulties. It is adducible that mobility impairment is most prevalent among PWPDS in this study because of inaccessibility of the physical built environment. Odufuwa [34], affirms that those using wheel chairs and other mobility aid like walking stick; are unable to use public transport in most Nigerian cities.

Overall level of difficulty with functional activity among the PWPDS in this study range from mild to moderate with respect to cognition, mobility, self-care, getting along with others, life activities and participation in community activities. Thus, PWPDS generally experience problems in terms of activity of daily living, and social issues. In this study, the Barthel Index was used to evaluate activities such as grooming, bathing, dressing, transfer and stair climbing, as well as environment related activities. A majority of the PWPDS reported that they would require no care givers for their activities of daily living. This finding may not be an indication of low level of disability but a situation where there is no choice than to be forcefully independent, in order to survive. Ahmed et al [35], submit that provision of social welfare services to the vulnerable population is a major component of health services and an indirect way of protecting the entire population, however, it is a neglected component of public health care services in Nigeria. However, a few of the PWPDS in this study reported that they have need for assistance to navigate their activities of daily living. The Centers for Disease Control and Prevention, in 2018 submits that often there are multiple barriers that can make it extremely difficult or even impossible for people with disabilities to function. Enumerating what makes function extremely difficult for PWPDS, the WHO [36], highlighted factors such as, "a physical

environment that is not accessible, lack of relevant assistive technology (assistive, adaptive, and rehabilitative devices), negative attitudes of people towards disability, and services, systems and policies that are either nonexistent or that hinder the involvement of all people with a health condition in all areas of life.”

Public transportation was the only mode of transportation available to the PWPDs in this study. Other studies have reported that PWPDs are transportation disadvantaged persons [37]. Individuals with disabilities were found to have less access to private vehicles and to utilize public transportation more than previously reported [37]. Bascom [37], summarized that “access to transportation is essential for obtaining employment, education, healthcare, and social interaction. Individuals who face difficulties in gaining this access are considered ‘transportation disadvantaged’ and include individuals of lower socioeconomic status, aging individuals, and persons with disabilities. In today’s automobile dependent society, individuals with disabilities face even fewer opportunities to interact within their communities”.

Profiling the disability status of the PWPDs in this study based on WHODAS, the PWPDs reported mostly mild difficulty with cognition, moderate difficulty with mobility, mild difficulty with each of self-care, relation with others, and life activities; and no difficulty with participation. In sum, most of the PWPDs were in the mild difficulty level based on total score on the WHODAS. Despite ample literature on significant influence of disability on cognition, the PWPDs in this study rated their cognition impairment as mild. This could be because many people from some African tribes such as the Yorubas, Hausas etc. and those with strong religious backgrounds tend to not rate psychosocial constructs correctly. As they tend to speak to their positive expectation rather than their realities. This type of observation has been documented by Mbada et al [38], in a study among persons living with HIV/AIDS. In their words, Mbada et al [38], stated “... the trend of people with terminal illnesses ... towards a more spiritual disposition may also explain the significantly higher mental health capacity of persons living with HIV/AIDS.

Furthermore, the PWPDs in this study reported moderate difficulty with mobility, mild difficulty with each of self-care, relation with others, and life activities; and no difficulty with participation. The finding on none difficulty with participation by most of the PWPDs in this study is unexpected. Knowing that disability has significant and negative toll on participation [3]. The UNCRPD stresses that “disability results from the interaction between persons with impairments and attitudinal and environmental barriers that hinder their full and effective participation in society on an equal basis with others” [3]. However, the unexpected finding from this study may be as a result of the fact that most of the PWPDs had no social life and hence, no social expectations. Some of them have admitted their circumstance as fate. Some of the PWPDs have lived almost all their lives isolated to their condition, and may have never experience real social participation. From this study, most of the PWPDs reported low level and quality of access to health care. The results of this survey show that a significant proportion of PWPDs are experiencing difficulty accessing adequate and appropriate primary healthcare services. Indeed,

approximately two third of respondents reported difficulty accessing their healthcare provider's office, equipment. This finding was supported by numerous literatures and studies from different researchers.

Although there was no significant association between the severity level of disability and quality of access to health care in this study, Lishner [8], stated that PWPDs represent approximately 10% of the world's population, yet they are among the most underserved groups. It has been reported that this population often lacks opportunities to engage in preventive healthcare activities and does not have adequate access to primary healthcare, hospital care, and long-term care services [12]. The relationship between disability and health is complex, as they are interlinked and over-lapping. There is extensive evidence that PWPDs are on average poorer, face widespread stigma, and often face a range of exclusions, including from employment, education, and access to services [39]. It is widely believed that people with disabilities also face exclusion from healthcare services, as the link between disability and poor health can also arise through other pathways. For instance, an impairment (e.g., physical impairment) may lead to further health issues (e.g., bed sores due to low mobility). PWPDs often occupy a marginalized position in society, and so may be more vulnerable to poor health due to poverty and adverse living conditions (e.g., vulnerability to injuries) [39]. This means that on average people with disabilities will have poorer health than people without disabilities [3].

This study also show that most of the PWPDs had high access barrier to home environment and the community, as well as, high barrier to transportation accessibility. This finding was supported by a growing body of literature with notion that features of the environment, including street connectivity, housing density, and safety are linked to physical activities in older adults or PWPDs [40]. More so, disability is hypothesized to result from an interaction between the persons, level of disease and impairment and the environment [41,14]. It was stated in the theory that a greater presence of mobility barriers in PWPDs community (e.g. curb cuts or uneven walking surfaces) should be associated with a higher degree of disability whereas more facilitators in the community (e.g., public transportation and handicap parking) should be related to less disability. Mobility barriers clearly are present in the community [42], and older adults as well as other with functional limitation frequently report that they have difficulty with physical elements of their environment [43]. These findings diverge from others who show no association between community mobility barriers and disability among older adults owing to a number of mobility barriers and facilitators found in the community. We also found that people reporting more mobility barriers and fewer facilitators in their community perceived more limitation in their daily activities. Also, despite the principles of the UN Convention on the Rights of Persons with Disabilities (CPRD)[44], that brings new momentum to ensuring accessibility in the delivery of transport infrastructure and services, this finding shows that there are a lot of loopholes with majority reported higher access barriers to transportation accessibility among PWPDs. this result was supported as it was stated in the literature that too often inclusive transport is not fully considered in

transport planning, design, construction and implementation in developing countries [45]. Mobility and access requirements of people with disabilities should be considered by planning and designing barrier-free transport systems. This implies an understanding and identification of the circumstances that create barriers for people with disabilities [45]. According to Henry [46], inaccessibility to the built physical environment is one of the more significant barriers to the full participation of persons with disabilities in society. Griffin [47], further added that the simplest way of increasing the use of public transportation facilities is to establish an environment where pedestrian access is safe, convenient and comfortable. Haber and blank [48], revealed that the present provision is inadequate and not disabled friendly.

4. Conclusion

Persons with physical disability suffers more from mobility impairment, and are deprived of educational and social attainment. PLWDs have low access to health care as they are faced with barriers related to home environment, community environment, community accessibility and transportation accessibility. The study has implications for policy for health and wellbeing of PLWDs in Nigeria.

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