



**UNIVERSITI PUTRA MALAYSIA**

***EVALUATION OF ACCESS TO HEALTH CARE AND ITS EFFECT ON  
HEALTH CARE UTILIZATION AND HEALTH STATUS OF PEOPLE  
WITH PHYSICAL DISABILITIES IN JIGAWA STATE, NIGERIA***

**HUSSAINI UMAR ZANDAM**

**FPSK(P) 2018 35**



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By

**HUSSAINI UMAR ZANDAM**

**Thesis Submitted to the School of Graduate Studies, Universiti Putra Malaysia,  
in Fulfilments of the Requirements for the Degree of Doctor of Philosophy**

**December 2017**

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## **DEDICATION**

To My Mom, whom I love the most



Abstract of thesis presented to the Senate of Universiti Putra Malaysia in fulfilment  
of the requirement for the degree of Doctor of Philosophy

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**HUSSAINI UMAR ZANDAM**

**December 2017**

**Chairman : Professor Muhammad Hanafiah Juni, MD**  
**Faculty : Medicine and Health Sciences**

**Introduction:** Access to health care is a complex issue and has been a source of concern to policy makers and researchers. who continue to seek answers to fundamental questions about the relationship between access, healthcare utilization, and health status among vulnerable populations. There is growing body of evidence showing that across Low-income and Middle Income Countries, people with disabilities across sex and age groups have disproportionately higher unmet healthcare need that are associated with multitude access barriers and challenges that are prevalent among people with disabilities. Access to healthcare and other social services for people with disabilities is largely unexplored in Nigeria, however, the combination of political, cultural and socioeconomic factors mitigating against inclusion of people with disabilities and the generally weak healthcare system in the country may result in inequitable health and healthcare among people with disabilities. The objective of this study evaluate equity in access to healthcare services by comparing people with physical disability to their counterparts with no disability and examine the extent to which disparities in physical health between the two groups are associated with access to healthcare

**Methodology:** This is a prospective ex post facto causal-comparative (explanatory) design to determine the differential effects of access to healthcare factors on healthcare utilization and health status between people with disabilities and their counterparts without disabilities. A multi-stage sampling method was used to recruit participants with physical disabilities who were cross-matched with participants without any disability based on age, gender and location. The study was conducted over a 6 months period where information on illness episodes and resulting healthcare seeking activities were used to evaluate healthcare utilization using Illness

and healthcare seeking record (IR). Access to healthcare was evaluated from both subjective and objective perspective. Subjective measures were measured at the beginning of the study using self-evaluated access to health instrument across 6 dimensions including approachability, availability, accessibility, affordability, acceptability and accommodation. Objective measures of access were evaluated during the study including distance and travel time, expenditures related to healthcare seeking and waiting times were documented from healthcare seeking acts. A household questionnaire was used to collect information on socioeconomic characteristics of the participants at baseline. The physical component of Short Form (SF-8) health status instrument was used to measure physical health status at baseline and repeated measurements at 2, 4 and 6 months. Data analysis involved comparison between people with physical disabilities and counterparts without disability on bivariate and multivariate basis. Linear regression and multilevel modeling analyses were conducted to compare access to healthcare and healthcare utilization using SPSS software. Latent growth curve was used to model physical health trajectory and disparity was modeled using AMOS software.

**Result:** The study shows that people with physical disability differs with their counterparts in several socioeconomic factors, perceived access dimensions and healthcare utilization as well as physical health overtime. The study also showed significant differences in perceived access reflecting largely socio-economic differences between people with physical disabilities and counterparts without disability (0.75, 0.41-0.056). Healthcare utilization was found to be significantly different even after adjusting for socioeconomic factors and access to healthcare (0.358, SE 0.030). However, results also show more heterogeneity of healthcare utilization access at district level due to access variables (0.308, SE 0.124) than at household level due to socioeconomic variables (0.154, SE 0.002). The study also finds that gap in physical health exists through out the study period. Result of the conditional effect of access factors on physical health after adjusting for healthcare utilization and socioeconomic factors shows that the difference in mean initial health between the disabled and non-disabled groups was reduced by 36% and the difference in mean rate of health change was reduced by 10%. The fit statistics (table suggest that the model fits the data well (RMSEA <0.05 and CFI > 0.95). The result shows that overall inequality in physical health between people with disabilities and counterparts without disability is influenced by access to healthcare as well as healthcare utilization and socioeconomic factors.

**Conclusion:** People with physical disabilities were generally found to have a poor access to health care as they experience a number of barriers to needed health care. These barriers have a fundamental influence on health of people with disabilities. Increasing access to healthcare through inclusive health policy and organizational strategies should be a central focus of policy interventions for reducing differences in health among people with disabilities and larger population.

**Key Words:** Access to healthcare, Disability, Physical health, Equity, Vulnerable population.

Abstrak tesis yang dikemukakan kepada Senat Universiti Putra Malaysia sebagai memenuhi keperluan untuk ijazah Doktor Falsafah

**PENILAIAN TERHADAP AKSES KEPADA PENJAGAAN KESIHATAN  
DAN KESANNYA KE ATAS UTILISASI PENJAGAAN KESIHATAN DAN  
STATUS KESIHATAN DALAM KALANGAN ORANG KURANG UPAYA DI  
NEGERI JIGAWA , NIGERIA**

Oleh

**HUSSAINI UMAR ZANDAM**

**Disember 2017**

**Pengerusi : Profesor Muhammad Hanafiah Juni, MD**  
**Fakulti : Perubatan dan Sains Kesihatan**

**Pengenalan:** Akses kepada penjagaan kesihatan merupakan isu kompleks yang menjadi punca kebimbangan bagi penggubal polisi dan penyelidik yang terus mencari jawapan kepada soalan asas mengenai hubungan antara utilisasi penjagaan kesihatan, dan status kesihatan dalam kalangan populasi rentan. Terdapat sejumlah besar bukti menunjukkan bahawa merentasi LMIC, orang kurang upaya merentasi jantina dan kumpulan umur mempunyai keperluan penjagaan kesihatan tak tercapai yang tak seimbang yang dikaitkan dengan pelbagai halangan dan cabaran akses yang prevalens dalam kalangan orang kurang upaya. Situasi tersebut masih lagi belum diterokai di Nigeria, walaupun, telah diperjelaskan bahawa sistem kesihatan yang secara umumnya lemah dan dibebani dengan kadar kemiskinan yang tinggi menyebabkan orang kurang upaya di Nigeria mempunyai dwipengancaman berkaitan dengan penjagaan kesihatan. Kajian ini berusaha mencari jawapan untuk merungkai dwipengancaman tersebut dan menerokai bagaimana akses yang lemah terhadap penjagaan kesihatan mungkin menyumbang kepada dispariti kesihatan yang dialami oleh orang kurang upaya.

**Metodologi:** Kajian ini menggunakan reka bentuk penyebab komparatif (eksplanatori) ex post facto longitudinal untuk menentukan kesan dan perbezaan akses terhadap faktor penjagaan kesihatan ke atas utilisasi penjagaan kesihatan dan status kesihatan antara orang kurang upaya dan orang tanpa kurang upaya. Kajian ini telah dijalankan sepanjang tempoh 6 bulan, maklumat tentang episod penyakit dan tindak balas penjagaan kesihatan, akses kepada variabel kesihatan dan status kesihatan telah diukur berulang-ulang. Soal selidik isi rumah telah digunakan untuk mendapatkan maklumat mengenai ciri sosioekonomi peserta pada peringkat dasar.

Rekod penyakit (IR) telah dikumpul daripada peserta bagi pendokumentasian terjadinya episod penyakit dan hal tersebut menyebabkan pencarian penjagaan kesihatan bagi menilai utilisasi penjagaan kesihatan. Akses nilai sendiri terhadap kesihatan, dibangunkan secara sengaja, dan soal selidik status kesihatan SF-8 telah divalidasi dan digunakan bagi menilai akses masing-masing terhadap kesihatan dan status kesihatan.

**Dapatan:** Dapatan menunjukkan bahawa dengan mengambil kira pengaruh faktor sosioekonomi, akses kepada penjagaan kesihatan, tidak terdapat perbezaan yang signifikan antara orang kurang upaya dengan kawalan tanpa kurang upaya dari segi jarak perjalanan, masa perjalanan, tempoh menunggu, kos langsung, dan 6 dimensi akses nilai sendiri. Akses kepada penjagaan kesihatan merupakan prediktor utama dispariti utilisasi penjagaan kesihatan antara orang kurang upaya dan kawalan. Akses kepada variable penjagaan kesihatan memperjelaskan lebih variasi dalam utilisasi penjagaan kesihatan dalam kalangan kumpulan kurang upaya berbanding dengan kawalan. Akses kepada variabel kesihatan dan utilisasi penjagaan kesihatan telah dikaitkan dengan perbezaan dalam status kesihatan antara orang kurang upaya dan kawalan tanpa kurang upaya sepanjang tempoh kajian dijalankan. Dapatan menunjukkan bahawa keseluruhan ketaksamaan dalam kesihatan antara orang kurang upaya dan kawalan lebih disebabkan oleh pengaruh akses kepada penjagaan kesihatan daripada perbezaan dalam utilisasi penjagaan kesihatan dan faktor sosioekonomi.

**Kesimpulan:** Orang kurang upaya fizikal secara umumnya didapati mempunyai akses yang lemah terhadap penjagaan kesihatan disebabkan mereka mengalami beberapa halangan untuk keperluan penjagaan kesihatan. Halangan tersebut merupakan pengaruh asas ke atas kesihatan orang kurang upaya. Peningkatan akses kepada penjagaan kesihatan dari segi polisi dan strategi bagi menjadikan sistem kesihatan inklusif harus dijadikan fokus utama intervensi polisi bagi mengurangkan perbezaan kesihatan dalam kalangan orang kurang upaya khususnya dan populasi lebih besar umumnya. Strategi tersebut menjadi efektif, walau bagaimanapun, sekiranya disertai dengan intervensi kehidupan yang memastikan keadaan hidup yang mencukupi dan yang dapat meningkatkan standard kehidupan orang kurang upaya.



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I certify that a Thesis Examination Committee has met on 21 December 2017 to conduct the final examination of Hussaini Umar Zandam on his thesis entitled "Evaluation of Access to Health Care and its Effects on Health Care Utilization and Health Status of People with Physical Disabilities in Jigawa State, Nigeria" in accordance with the Universities and University Colleges Act 1971 and the Constitution of the Universiti Putra Malaysia [P.U.(A) 106] 15 March 1998. The Committee recommends that the student be awarded the Doctor of Philosophy.

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## LIST OF ABBREVIATIONS

ADL	Activities of Daily Living
AL	Activity Limitation
AMOS	Analysis of Moment Structures
AOR	Adjusted Odd ratio
CBR	Community Based Rehabilitation
CFI	Comparative Fit Index
CI	Confidence Interval
CRPD	Convention on the Rights of Persons with Disabilities
EA	Enumeration Area
EFA	Exploratory Factor Analysis
FMOH	Federal Ministry of Health
FMOWAS	Federal Ministry of Women Affairs and Social Welfare
GHS	Gunduma Health System
HrQOL	Health-related Quality of Life
ICF	International Classification of Functioning and Disability
ICL	Inverse care Law
ISEqH	International Society of Equity in Health
KMO	Kaiser-Meyer-Olkin
LGCM	Latent Growth Curve Modeling
LMIC	Low-income and Middle-income Countries
MDG	Millennium Development Goals
NBDS	National Baseline Disability Survey
NGO	Non-government Organization
NN	Nigerian Naira
NWDA	Nigerians with Disability Act
OECD	Organization of Economic Co-operation and Development
OOPE	Out-of-Pocket Expenditure
PCA	Principal Component Analysis
PHC	Primary Health Care
PCE	Per Capita Expenditure
PRISMA Preferred	Reporting Items for Systematic Reviews and Meta-analysis

RAT	Risk Assessment Tool
RMSEA	Root Mean Square Error of Approximation
SMOH	State Ministry of Health
SF	Short Form
STROBE	Strengthening the Reporting of Observational Studies
TLI	Tucker Lewis Index
UN	United Nations
UNCRPD	United Nations Convention on Rights of Disability
UNDESA	United Nations Department of Economics and Social Affairs
WAI	Weighted Average Index
WHO	World Health Organization
WHOQOL	World Health Organization Quality of Life Group

# CHAPTER 1

## INTRODUCTION

This chapter presents an introduction for the study by first providing a brief introduction of the main theme of the study: access to healthcare. The chapter subsequently presents a background for the study, problem statement, significance of the study, aim and objectives, and finally hypothesis.

### 1.1 An overview of access to healthcare

Access to healthcare has been a central topic of public health policy especially as a tool for setting priorities and for evaluation of health system performance (Donabedian, 1990; Starfield, Shi & Manciko, 2005; WHO, 2012). Access is of major development interest that having access to effective healthcare is considered a vital component of human capital that ensures healthy living, general wellbeing and quality of life (Galama & van Kippersluis, 2013; Sen, 2002). In recognition of this importance, access to healthcare has been embedded in protection and promotion of health as right international documents such as the Universal Declaration of Human Rights (United Nations, 1948) and the Declaration of Alma Ata (World Health Organization, 1978).

However, despite this importance, considerable variation exists in the meaning and use of the term access to healthcare among health services researchers (Levesque, Harris, & Russell, 2013). Some early researchers on access use the term simply to denote entrance and use of healthcare services (Frenk, 1992.; Gulzar, 1999; Racher & Vollman, 2002) while other researchers use the term to denote a broad and multi-dimensional concept that describes opportunities and healthcare system characteristics such as affordability, availability, accessibility, and elements of quality of services that determines the ability to use and benefit from healthcare services (Levesque et al., 2013; Obrist et al., 2007; Peters et al., 2008).

In spite of the successes recorded in providing access to effective healthcare by governments and international organizations especially in resource poor countries, some population groups are overlooked during the planning and organization of services resulting in considerable disparities in health and health care (Garcia-Subirats et al., 2014; Gwatkin, Bhuiya, & Victora, 2004; Schneider et al., 2013). This disparity in health and healthcare severely affects vulnerable groups experiencing deprivations in wide-range of social and economic benefits (Marmot, 2005; WHO, 2015). Studies on poverty and social disadvantages have shown that there exist a link between vulnerability and extent of social deprivation and access to healthcare (Grabovschi, Loignon, & Fortin, 2013; MacLachlan et al., 2012) (Grabovschi, et al., 2013; MacLachlan, Mannan, & McAuliffe, 2011)



Vulnerable population, defined as “social groups who experience limited resources and consequent high relative risk for morbidity and premature mortality” (Flaskerud & Winslow, 1998). Grabovschi et al., (2013) has illustrated through a proposed model that vulnerability varies inversely with accessibility of healthcare and varies directly with healthcare need. The population groups according to Mannan et al., (2012), include; elderly, children, ethnic minorities, women-headed households, displaced populations, people suffering from chronic illnesses such as HIV/AIDs, and people with disabilities among others. Generally, vulnerable populations have been shown to experience challenges with accessing healthcare services. The empirical evidence for this has been shown for various sub-groups such as ethnic minorities (Flores, 2010; Greenwood, Habibi, Smith, & Manthorpe, 2015), displaced population (Orach, Aporomon, Musoba, & Micheal, 2013), and people with disabilities (Eide et al., 2015; Gudlavalleti et al., 2014; Trani, Bakhshi, Noor, Lopez, & Mashkooor, 2010), as well as women-headed households (Onah & Govender, 2014; Schatz, Madhavan, & Williams, 2011; Titus, Adebisola, & Adeniji, 2015) etc.

Improving health and healthcare disparity for vulnerable population is an equity issue that can be achieved through quality evidence on challenges and barriers faced by these populations in order to support effective policy and service delivery (Davis & Ballreich, 2014; WHO, 2004). However, because vulnerable population is an umbrella term for various sub-groups with different healthcare needs and access challenges (Gray, 2004; Schneider, Henning, Amin, & Mannan, 2013), knowledge about patterns of healthcare utilization and challenges experienced for each group is needed as evidence to develop interventions that are responsive to specific needs of each sub-group. In this study, the focus is specifically on people with physical disabilities.

Evaluating the experiences of people with disabilities with health systems has been suggested as an indicator of general accessibility and equity in responding to the right to health of all users (Maclachlan, Mannan, & McAuliffe, 2011). This is because people with disabilities are adjudged to be the most vulnerable of all groups (WHO, 2011) and that disability is a crosscutting concern that magnifies existing vulnerabilities among individuals and other vulnerable groups such as women, people living with chronic conditions such as HIV/AIDs, displaced people, children and ethnic minorities (Meade, Mahmoudi, & Lee, 2015). Thus, access to health care for people with disabilities can be used to evaluate broader health system equity, by reflecting the experiences of a wider population that involve intersectoral and systemic contributors to equitable health care. Disability data has been recommended in broader developmental practices to assess a country's compliance with the 2030 Agenda for Sustainable Development and monitor their improvement in meeting the established requirements over time (Madans, Loeb, & Eide, 2017).

## 1.2 Background of the study

There is growing body of evidence showing that people with disabilities have poor health, which restricts them from realizing their full potential and actively participate in the society (UN, 2011). They have been shown to experience high burden of diseases and have higher vulnerability to morbidities (Moodley & Ross, 2015) and often, the primary condition associated with their disability may continue to result in poor health and healthcare need (Emerson, Bradshaw, & Holzapfel, 2009). Moodley & Ross (2015) reported that people with disabilities (40%) expressed higher need for healthcare compared to respondents with no disabilities (20%). Despite these health challenges, majority of people with disabilities in Low-income and Middle-income Countries (LMICs) experience difficulties accessing healthcare and suffer unmet healthcare need (Eide et al., 2015; WHO, 2011).

Evidence also shows that across LMICs, people with disabilities across sex and age groups have disproportionately higher unmet healthcare need (WHO, 2011). For example, respondents from low-income countries who have disability have higher rates of unmet healthcare (6.1-6.6 per year) than respondents from high-income countries (3.3-4.6 per year). In these countries, unmet need for healthcare varies with severity of disability. Another study found that people with disabilities, specifically, those with physical impairments and brain impairments had higher unmet healthcare need at 25.2% and 25.3% respectively, compared to general population at 22.8% (Hwang, Chun, Park, & Shin, 2011). In a cross-country study in four African countries (Namibia, South Africa, Sudan, and Malawi), Eide et al., (2015) found that the probability of unmet healthcare increases with activity limitation. Disability also influences healthcare seeking in terms of type of care sought and frequency of visits. Trani, Bakhshi, Noor, Lopez, & Mashkooor (2010) also illustrated this in a study where it was found that people with disabilities together with other vulnerable groups such as female-headed and poorest households visited public health centres more often than private facilities and hospitals. In contrast, a study in India has shown that people with disabilities compared to those without were found to be 5 times more likely to be hospitalized. A similar study in Korea found that people with disabilities has twofold or more odds of using inpatient services (Kim, Lee & Shin, 2013). People with disabilities were found to receive more of hospital care than clinic in Ghana signifying high morbidity and emergency cases (Badu, Opoku, Christopher, Appiah, & Agyei-okyere, 2015).

These unmet healthcare needs and possible health challenges as a consequence are associated with multitude access barriers and challenges, which are found to be more prevalent among people with disabilities (WHO, 2011; WHO, 2015). It has been proven that more people with mild and severe activity limitations reported having problem with availability of health services and medical care compared to people with no activity limitations (Eide et al., 2015). The major problems, according to the study include, lack of transport, unavailability of services, lack of adequate equipment or drugs, and costs associated with visits to health facilities. Barriers related to availability of services also reflect shortcomings between supply and

demand in terms of insufficient human resources for health resulting in long queues (Ahumuza, Matovu, Ddamulira & Muhanguzi, 2014) as well as inequitable distribution of facilities (Abdi et al., 2015). Accessibility of health facilities is one of the commonest barriers to healthcare utilization reflecting travelling challenges for people with disabilities such as lack of transportation (Ahmad, 2013) and travel time (Badu, Opoku, Christopher, Appiah, & Agyei-okyere, 2015; Trani et al., 2010). The intricate relationship between poverty and disability underlies difficulty with affordability of healthcare among people with disabilities in terms of direct costs such as travel cost (Gudlavetti et al., 2014), indirect costs (Moodley & Ross, 2015; Abdi et al., 2015), and health insurance coverage (Badu et al., 2015). Wrong perceptions by health providers about disability and people with disabilities at health facilities resulting in poor provider-patient interactions (van Rooy et al., 2012), lack of respect (Padhyegurjar & Padhyegurjar, 2012) and poor satisfaction with quality of services (Mulumba et al., 2014), are important barriers that lead to low acceptability of healthcare services. Generally, people with disabilities experience accommodation barriers along issues such as building and technology that is not accessible (Eide et al., 2015; Ahmad, 2013), lack of supporting facilities (Castro, Lefèvre, Lefèvre, & Cesar, 2011; Mulumba et al., 2014), and organization of services that is not inclusive (Hwang et al., 2011; Padhyegurjar & Padhyegurjar, 2012). These barriers and difficulties in accessing healthcare may contribute to poor health of people with disabilities contributing to health disparity. Satisfaction with access to healthcare is associated with self-reported health status (Garcia-Subirats et al., 2014; Grabovschi, et al., 2013). Dissatisfaction with ease and cost of getting healthcare has been associated with worsening of function (Iezzoni, Davis, Soukup, & O 'day, 2002). Similarly, low satisfaction with availability of healthcare was found to be associated with low physical and mental health ratings.

### **1.3 Problem Statement**

Access to healthcare and social services for people with disabilities has been largely unexplored in Nigeria judging from lack of literature in the area (Eleweke, 2016). However, the situation is likely to be no different from those described in the section above owing to similar political, cultural, and socioeconomic situation which have been described as the bane of healthcare system in the country giving rise to inequitable health and healthcare (Audu, Bako Ara, Abdullahi Umar, Nanben Omole, & Avidime, 2014; Chukwuneke, 2015). The situation could be worse because of marginalization and poverty among the people with disabilities as reported in the National Baseline Survey on Disability (Federal Ministry of Women Affairs and Social Development (FMWASD), 2015), health burden and poor quality of life (Amusat, 2010), and weak healthcare system in the country (Innocent, 2014). Disability situation is largely perceived among government and the public as a charity and welfare issue, not a right issue, which resulted in lack of enforcement of rights of people disabilities against discrimination, lack of social protection, and lack of inclusion in mainstream services including healthcare services (Lang & Upah, 2008).

Health and healthcare challenges of people with disabilities is a huge burden considering there are estimates of about 19 million (15%) people living with forms of disability in Nigeria (WHO, 2011) and about 5 million (5%) are living with a permanent disability according to the Federal Ministry of Women Affairs and Social Development (FMWASD, 2015). The largest group of those with permanent disability in the survey, about 28%, are those with physical disabilities representing survivors of various medical conditions including non-communicable diseases such as cardiovascular disorders and diabetes, and communicable diseases such as poliomyelitis, meningitis, TB, etc. Others include those with congenital defects, birth related incidents, and physical injury including road traffic accident and violence victims. These groups have been identified to have health challenges and have poor health-related quality of life (HRQOL) (Abubakar & Isezuo, 2012; Adegoke, Kehinde, Akosile, & Oyeyemi, 2013; Hamza, Al-Sadat, Loh, & Jahan, 2014; Kaka, Ogwumike, & Adeniyi, 2011). However, majority of studies on health and HRQOL challenges faced by this population are facility based, which by implication means that there is uncertainty to the actual challenges of those who have no or have poor access to health care services. This group of those with limited access to health care could be worse off because most often than not, the poor health experienced by the group may not be a direct result of disability but lack of access to effective and appropriate healthcare (Rimmer & Rowland, 2008).

This may be the true case considering the high healthcare need, marginalized status, and poor socioeconomic standing, people with disabilities enjoyed no special coverage or assistance with healthcare anymore than the general population in the country (FMWASD, 2015), they could be faring worse than general population in a healthcare system that is generally inequitable especially for vulnerable populations who are poor and living in rural areas (Ajayi & Arigbede, 2012; Ibrahim Ishaya, Okolo, Ayuba, & Yu, 2016). It was reported that over 70% of people with disabilities encountered difficulties with accessing range of services such as counselling, vocational training, economic empowerment, and healthcare. The national baseline disability survey report (FMWASD) concluded “the general poor state of health facilities in Nigeria and the prohibitive cost of medical care coupled with high poverty rate put persons with disabilities in Nigeria to double jeopardy” with regards to healthcare. This study seeks to disentangles this double jeopardy and explore how access to healthcare may contribute to health disparity experienced by people with physical disabilities.

#### **1.4 Significance of the study**

This study is significant and contributes to literature on access to healthcare and health status of people with disabilities in a number of ways. Firstly, by developing and validating a self-reported instrument for measuring and evaluating access to healthcare in resource poor settings through the use of broad access indicators as composite indices which are more amenable to planning, monitoring, and priority setting. This study also validates the use of Short Form-8 instrument for measuring health among the study population. Secondly, this study contributes and extend the



literature on access to healthcare and disability by studying their relationship in a multi-level and multivariate framework using multilevel analysis method and an alternative structural method of analysis in the form of latent growth modelling (LGM), which is an advanced, second generation structural equation modelling approach.

This study is also significant because of the moral and ethical importance attached to addressing health and health care disparity for people with disabilities under the principle of equity, human rights, and distributive justice (Nigerian Health Act, 2014; United Nations, 2006; WHO, 1978; UN, 1948; WHO, 2015). Findings from this study can help policy-makers to develop effective interventions that can address access to effective healthcare for people with disabilities and reduce health disparity among the population. The findings can also be used in advocacy initiatives by disabled people organisations (DPOs) and other civil society organizations with interest in disability inclusion and development.

### **1.5 Research questions**

The general research question for this study is to answer how equitable is the healthcare system for people with physical disabilities and to what extent it influences healthcare utilization (procedural equity) and health disparity (substantial equity) between people with physical disabilities and their counterparts without disability? The specific research questions are as follows;

1. Does access to healthcare in terms of travel distance, travel time, waiting time, direct costs and self-evaluated access dimensions vary across disability status?
2. Does healthcare utilization in terms of frequency and type of sought vary across disability status?
3. Does access to healthcare have an influence on healthcare utilization and does the effect vary by disability status?
4. To what extent does access to healthcare and healthcare utilization influence health disparity between people with disabilities and those without disabilities

### **1.6 Aims and Objectives**

The aim of the study is to evaluate equity in access to healthcare services among people with physical disability compared to their counterpart with no disability and determines the extent to which disparities in physical health between the two groups are associated with access to healthcare. The specific objectives are listed below;

1. To develop and evaluate self-evaluated access to healthcare instrument

2. To validate SF-8 health measurement instrument among the study population.
3. To evaluate access to healthcare between people with disabilities and controls without disability.
4. To determine and compare healthcare utilization by frequency and types between people with disabilities and controls without disability.
5. To measure and compare health status across the study period between people with disabilities and controls without disability
6. To examine the effect of access to healthcare on healthcare utilization and compare between people with disabilities and controls without disability.
7. To examine the effect of access to healthcare and healthcare utilization on health disparity across time between people with disabilities and controls without disability.

## **1.7 Hypothesis**

1. There is no significant difference between people with disabilities and controls without disability in terms of accessibility.
2. There is no significant difference in healthcare utilization by type and frequency between people with disabilities and controls without disability.
3. There is no significant difference in the effect of access healthcare on healthcare utilization by type and frequency between people with disabilities and controls without disability.
4. There is no significant difference in the effect of access healthcare on health disparity between people with disabilities and controls without disability across the study period.
5. There is no significant difference in the effect of healthcare utilization on health disparity between people with disabilities and controls without disability across the study period.

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