

**THE EFFECT OF DISABILITY ON ACCESS TO HEALTHCARE
IN MOROGORO REGION, TANZANIA**

**THE EFFECT OF DISABILITY ON ACCESS TO HEALTHCARE
IN MOROGORO REGION, TANZANIA**

By

Rugabela Lilian G.

**A Dissertation Submitted in Partial/Fulfillment of the Requirements for Award
of Master of Science In Economics, of Mzumbe University.**

2019

CERTIFICATION

We, the undersigned, certify that we have read and hereby recommend for acceptance by the Mzumbe University, a dissertation entitled “**The Effect of Disability on Access To Healthcare In Morogoro Region, Tanzania**” in partial/fulfillment of the requirements for the award of Master of Science in Economics of Mzumbe University.

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I am appreciative to God because I wouldn't have made it if it was not for his grace. He was with me all the way.

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DEDICATION

I dedicate this paper to my beloved family since they have been a motivation throughout my life.

ABBREVIATION

ADD	An Action on Disability and Development, 2005
CCBRT	Comprehensive Community Based Rehabilitation in Tanzania
CDC	Centers for Disease Control and Prevention
CRPD	Convention on the Rights of Persons with Disabilities
CRPD	Convention on the Rights of Persons with Disabilities
GDP	Gross Domestic Product
GEGA	Global Equity Gauge Alliance
GOT	Government of Tanzania
HR	Human Resources
HSSP	Health Sector Strategic Plan
ICF	International Classification of Functioning, Disability and Health
ICIDH	International Classification of Impairments, Disabilities, and Handicaps
ICRC	International Committee of the Red Cross
LMICs	Low-and Middle-Income Countries
MMWR	Morbidity and Mortality Weekly Report
NBS	National Bureau Statistics
SIDA	Swedish International Development Cooperation Agency
UHC	Universal Health Coverage
UN	United Nations
URT	United Republic of Tanzania
WHO	World Health Organization

ABSTRACT

The study is concerned with the effect of disability on access to healthcare in Morogoro region, Tanzania. World disability report indicates that about 5.8 percent of individuals who are disabled worldwide don't get treatment as required compared with the 3.9 percent of individuals who are not disabled in the populace. Access and the use of health care remains among the main setback for individuals who are disabled although health care is a human right.

The study seeks to understand the effect of disability on access to healthcare as it seeks in meeting various research objectives in regards to the study such as proportions in healthcare access between people who are disabled and people who are not disabled, analysis on the association between type of disability and health care access in Morogoro and analyzing factors influencing health care access in Morogoro region. The study used primary data through questioners from a 200 respondents sample size. The key objective was to analyze the effect of disability on healthcare access. Descriptive statistics and probit regression analysis was used to answer the questions arising from the three objectives. Majority of the respondents had encountered problems when trying to access health care, also factors like age, type of disability, gender, income and marital status were found to be significant. The stakeholders ought to re-examine hospital infrastructures and regulations that exist in order to ensure accessibility of healthcare services.

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CHAPTER ONE

INTRODUCTION

1.1 Background of the study

Disabled people worldwide are experiencing lower living standard, economic and social participation than non disabled people (WHO, 2011). The report also showed that, one billion and more individuals, 15% of the total populations are still living with disability while their incidence level are expecting to rise parallel with non-communicable diseases.

The understanding on disability has developed during the past few years after. The World Health Assembly which took place in 2001 affirmed the International Classification of Functioning (ICF), Disability and Health and the United Nations in 2006 received the Convention on the Rights of Persons with Disabilities (CRPD). Disability is described by both organization as functional result due to communication between a person who is impaired (as consequence of well being circumstance) and its surroundings.

Numerous studies indicate that disabled individuals need more products plus services, consequently causing more prominent budgetary costs to accomplish a similar degree of working as healthy people (Burchardt and Zaid, 2005). Given the fact that wellbeing condition is the key element of the definition of disability, it isn't astounding to discover that individuals with disabilities over a range a spectrum of nations experience greater health care requirements than those with no disabilities (WHO, 2011). Whereas individuals who are disabled experiencing greater healthcare requirements for support and services, which also has a comparatively small ability for payment purposes. Throughout each community, people who are disabled with their relatives are bound to be more unfortunate, have lesser instructive achievements and lower work rates (WHO, 2011).

Policy issue is the mixture of high and low ability to pay for health care facility. It brings people who are disabled at danger of disastrous well being spending, neediness initiating medicinal services installments or neglecting genuinely necessary human services therapy that will fuel wellbeing circumstances, inability and social and budgetary avoidance. Thus there exists a rising mindfulness that inability to tackle the wellbeing and different needs of individuals who are disabled can put at risk the accomplishment of the Sustainable Development Goals (United Nations General Assembly, 2015).

Individuals who are disabled need medicinal services and general wellbeing programs for similar reasons that any other person does to stay well, dynamic, and a piece of the general society. Healthcare access, however, might be a challenge for some individuals who are disabled. According to the latest MMWR study, grown-ups 65 years old and more established with any incapacity all the more frequently revealed having medical coverage inclusion, a typical medicinal services supplier, and getting a standard checkup than did more youthful grown-ups who are disabled. What's more, disability-explicit differences in access to medical service access were prevalent, especially among youthful (18–44) and moderately aged (45–64) grownups. For the most part, grown-ups with vision impairment revealed minimal access to medicinal services (for example medical coverage inclusion, normal medicinal services supplier, neglected cost related healthcare needs, and regular check-ups inside a past year) and grownups with self-care handicap had the most health care access.

In the event of advanced countries such as the U.S. one out of four individuals are disabled. The 2016 Behavioral Risk Factor Surveillance System, the CDC recorded the amount of adolescents across six kinds of types of disability; vision, cognition, mobility, self-care, autonomous living, and hearing. The most regular disability was the disability that affect mobility, it reported by about 1 out of 7 adolescents, then cognition disability (1 out of 10), autonomous living disability (1 out of 15), hearing

disability (1 out of 17), vision disability (1 out of 21), and self-care disability (1 out of 27).

Disability may occur at any phase in an individual's life; in any case, disability is more by grown-ups more than 65 years of age, females, Alaska Natives/ non-Hispanic American Indians, grown-ups who have less incomes, and grown-ups residing in United States in the South Census region.

Disability is a piece of an ordinary human encounter. It's essential that all individuals who are disabled get the human services and support they have to improve the wellbeing and prosperity of the whole populace. Be that as it may, disability-explicit difficulties in getting to human services are familiar. Although the understanding of these obstacles by medicinal services providers and general wellbeing experts can assist provide strategies in order to enhance access to healthcare and encourage consideration of individuals who are disabled in programs for illness aversion and wellbeing advancement.

Inclusion of disability implies ensuring that we think about the consideration the requirement and commitment of individuals who are disabled so everybody can have a similar chance in engaging in all parts of life to the best of their skills and wishes. Access barriers and the use of health care remains among the main setback for individuals who are disabled although health care is a human right.

Inclusive health refers both to physical access and correspondence. For example, healthcare practitioners may be attentive of how to discuss efficiently with patients who have a scope of disabilities, including individuals who have difficulties of hearing, speech difficulty, sight difficulty, disability in intellectual. The providers may guarantee that accessible medicinal tools are available to people who are disabled, for example, seats, examination tables, or scales. Additionally, providers might need to invest extra energy with patients who may need such accommodation during examinations.

Individuals who are disabled have indistinguishable wellbeing requirements like any other individual from the populace, including screening, sexual and conceptive wellbeing, immunization and every single other part of common health care. They may likewise have extra or increasingly complicated wellbeing needs due to disability also the effects of disability. Individuals who are disabled are bound to encounter obstacles to access and use of healthcare services than any other group in the society.

Access and utilization to healthcare is asserted as a right to every human which is recognized in numerous people's rights tool like the Convention on the Rights of Persons with Disabilities (CRPD) that is indicated in the Article 25, "Individuals who have disabilities reserve an option to enjoyment in the most elevated achievable status of wellbeing with no segregation based upon their disability (The United Nations, 2006). The privilege receives support from the Sustainable Development Goals (SDGs) whereas the widespread of access and utilization to health care has turned out to be essential so as to guarantee the nation's inclusive development.

Persons with any type of disability may confront specific obstacles in getting the care in health that they need. Most of them are the enhanced probability of residing in the position of neediness and social segregation that adds the probability of being sick as well as probability to face obstacles getting to medicinal services. For every one of these reasons, wellbeing is a question of the rights of people with disability, and that the reason which the Article 25 of the Convention on the Rights of Persons with Disabilities enumerate the regularizing system that ought to administer disabled people's rate of accessing healthcare.

Drainoni et al. (2006) indicated that individuals who are disabled experience numerous obstacles to acquiring medicinal services as these hindrances appear to be an attribute of being more significant for some kinds of services for health care in relation to other people. Barriers in health care access consolidate absence of flexible tools and out of reach conditions for victims with disabilities, the failure medical

experts to have a moment for patients with hearing and speech problems, restrictions in the coverage of insurance for specific services in health and restricted data on where patients with disabilities are referred to in order to get health care that is specialized. In addition, these patients generally experience a lot of difficulties when making various movements in medicinal facilities. (Story et al., 2009)

Furthermore, Drainoni et al. (2006) asserts strongly insists that individuals who are disabled might get some degree of healthcare although the level of contentment on car is small owing to frustrations caused by the delays. Thew et al. (2012) for example, discovered that patients with difficulties in hearing “fear, mistrust and frustration” in the healthcare environments, which is probably to result in inaccurate diagnosis and inappropriate treatment.

Access and utilization for people with disabilities to healthcare appears to vary among nations including groups in the global competition. In terms of access to and use of healthcare, individuals with disabilities are still behind (Rimmer et al., 2004). These individuals encounter utilization and access to health-care obstacles especially in low and middle earnings nations, thus widening the disparity in access among them and their correspondents in the advanced nations. (ADD, 2005).

Tanzania’s mainland healthcare system

It’s essential in understanding the healthcare system framework in the mainland in preparation of the more orderly and extended implementation of health under the industry of health. The mainland of Tanzania is part into twenty five organizational regions, one hundred and thirteen districts as well as one hundred and thirty three councils. The districts are semi-independent in health planning and execution that is significant point to consider when setting up health operation across a nation.

In the Tanzanian mainland have roughly 237 governments as well as private owned hospitals. Out of these 237, 57 are government-owned hospitals in the districts, 35 hospitals are district designated hospitals owned by religious organizations. Also there are 5 additional district-level public clinics, 4 of which are owned by the

military. Regional hospitals that are owned by the government are 27 as well as 10 religious-based hospitals that are referral operating at the level of the region functioning as hospitals for referral patients for the district hospitals. Lastly, the “super-specialist” and national hospitals are 9.

The Tanzania government (GOT) has made vital exertion, primary healthcare services to its people through government and private suppliers. There are currently roughly 481 health centers and 4,679 dispensaries across the nation. Around 90 percent of the populace lives inside five kilometers the main facility of health; be that as it may, the majority of the populace is living in rural areas which are far from hospitals and the care of experts. Insights indicate that skilled employees in the health sector in Tanzania fill up just 35% of positions, hence leaving the country with a serious crisis in human resources (HR). (Health Sector Strategic Plan [HSSP] III, 2010).

Disability in Tanzania

About 4.2 million Tanzanians are residing with disabilities. Individuals who are disabled are frequently among the least fortunate and most marginalized in the society. Any disabilities have a major effect on wellbeing, jobs and attending school. As a consequence of their health or activity constraints, greater than 50% of the kids who are disabled fail to go to school. Absence of education among disabled people in Tanzania is estimated to be 48%, contrasted with 25% among those without disability. It badly ruins both economic and social development. Excluding people who are disabled from the working environment, either via discrimination or difficult to reach workplaces, leads Tanzania to incur the cost \$480 million annually which is 3.76 percent of the nation’s GDP. People who are disabled regularly face serious poverty owing to the challenges in obtaining stable revenue in the midst extensive segregation. Whereby only 3.1 percent receive income from jobs that pay them thus families whose head is an individual with disabilities face higher poverty rates. (CCBRT, 2018).

As indicated by the (2008) survey on disability, the majority common cases in Tanzania of disability were disclosed for the population aged 7 years and older. Seeing difficulties were the most reported type of disability (3.7 per cent), followed by mobility (3.1 per cent), hearing (1.9 per cent), cognition (1.5 per cent) and communication (0.8 per cent). The survey also aimed to determine living environment among individuals who are disabled, for example, their experiences with the physical surroundings and attitudes, their primary sources of income, education level, and ownership of assistive devices. (The NBS, 2018)

In terms with those with mobility access to health care and physical rehabilitation services, is particularly hard, especially for those residing in rural areas. Only two per cent of Tanzanians with disabilities are estimated to have used rehabilitation services. The Ministry of Health and the Special Fund have initiated a program to uphold the rights of individuals who are disabled.

The ultimate goal is to ensure that all those in need of physical rehabilitation have access to the required services. According to the Minister for Health and Social Welfare, this will have an impact not only on individual lives but on society as a whole. (ICRC, 2013)

The mixture of soaring wants and low ability to afford services for health care is indeed a serious concern of the policy. Disabled people are put at the possibility of tragic health spending, neediness prompting health care expenses or neglecting genuinely necessary medicinal services treatment that will intensify wellbeing conditions, inability and social and monetary rejection. The increase in awareness that is inability to tackle the wellbeing and different needs of individuals with disabilities may imperil the accomplishment of the Sustainable Development Goals (United Nations General Assembly, 2015).

1.2 Statement of the problem

Health equity needs that everyone be able to access excellent quality health services are supplied as needed in order that every person gets a reasonable chance to achieve the complete potential of health (Whitehead, 1992). The idea of wellbeing value is integrated in a commonly accepted concept of the Universal Health Coverage (UHC). UHC is now a main policy objective for many low-and middle-income nations (LMICs). It is commonly acknowledged as vital for improving health, social structure and sustainable economic and human development (World Health Organization, 2010). The arrangement of accessible, available and affordability health services for individuals who are disabled shows a significant worldwide dispute.

World disability report indicates that about 5.8 percent of individuals who are disabled worldwide don't get treatment as required compared with the 3.9 percent of individuals who are not disabled in the populace. The middle income and low income nations, rate of not getting treatment has increased to around 6.4 percent related to 3.9 percent in advanced nations (WHO, 2011).

Access to transportation and data, adverse perspective of other people for instance at school, home, work place, failure to access government services / locations, hardship and insufficient portrayal are major difficulties facing people with disabilities. Also because of the prevailing witchcraft belief that the albino's parts of the body are thought to have supernatural powers that is why they are often killed. The very revealing example of this belief is the situation which happened in Tanzania is the reported report on 45 persons with albinism who were killed in 2009 and was still going on 2014 as it was reported to the UN Human Rights committee. Low approachability to health care makes it hard for people who are disabled to engage in most of the activities. Although in 2010 a Disability Act was introduced in Tanzania Mainland providing for health care, social support, accessibility, rehabilitation,

education and vocational training, communication, employment, work security and advancement of the primary rights of individuals who are disabled.

Tanzania has signed the African decade of Persons with Disabilities 1999–2009, extended to 2019. The department of Social Welfare under the Ministry for Health and Social Welfare is accountable for the execution in consultation with an appointed Secretariat little has been achieved in this area due to budgetary constraints and lack of political pressure. (SIDA, 2014)

Disability and access to health care has gained little attention among the Tanzanian population. There is limited information on their health needs. There is little literature suggesting that individuals who are disabled have more problems with their health care than people who are not disabled in rural areas particularly when it comes to access to health care. The researcher has thus built on engulfing the issue of the effect of disability on access to healthcare to healthcare in Morogoro and to analyze the distinct elements to what causes the problem.

1.3 Objectives of the study

1.3.1 General objective

The aim of the study is to analyse the effect of disability on access to healthcare in Morogoro, Tanzania.

1.3.2 Specific objectives

- i. To determine the proportions in healthcare access between individuals who are disabled and individuals who are not disabled.
- ii. To analyse the association between type of disability and access to healthcare.
- iii. Analyse the factors influencing healthcare access in Morogoro region.

1.4 Research Questions

1.4.1 General question

What is the effect of disability on access to healthcare in Morogoro, Tanzania?

1.4.2 Specific questions

- i. What are the proportions in healthcare access among people who are disabled and those who are not disabled?
- ii. What is the association between type of disability and access to healthcare?
- iii. What are the factors influencing the effects of disability on access to healthcare in Morogoro region.

1.5 Scope of the study

The research involved individuals with disabilities involving physical, blind, hearing disabilities as well as people without disabilities. The study is done in the region of Morogoro, Tanzania.

1.6 The Significance of study

The study is expected to offer familiarity that is of paramount importance to a variety of health industry stakeholders. Therefore ensuring equal access to free health services by the disability persons, the study focuses on making health service providers more aware of, and dedicated to, addressing health problems and the effect of disability on access to healthcare. It is essential not only that, but to deal with factors that hinder the individuals who are disabled from accessing health services is important. These include addressing their needs for their health issues, and supporting their ability to live healthy lives.

The study further will provide information that guides the policy makers on allocating resources to provide equitable preventive, curative and rehabilitative services to different areas in an effort to make progress towards the Universal Health

Coverage (UHC), an agenda that has raised great concern for all government around the world.

1.7 Organization of study

The study is structured into the following sections. Chapter one includes the context of the study, problem statement, objectives, questions, the significance and the research organization. The chapter on the literature involves theoretical evaluation of appropriate research-related resources and other related works of the research along with the empirical analysis and the conceptual framework. Chapter three focuses on research methodology which including research design, study area, study population, sample size and sampling techniques, data collection methods, data analysis and unit of analysis, variable measurements and descriptions, validity and reliability as well as the model estimation. Chapter four describes the presentation of findings. Chapter five provides the discussion of findings. Last but not least is chapter six which gives summary, the conclusion, and implications of the policy, recommendations, limitation and areas for further studies.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

Chapter two provide insights into the study's theoretical review and empirical literature review as well as the conceptual framework. Whereby, in the theoretical literature review the researcher concentrated on reading books, journals, articles, documents, and numerous reports kept through internet facilities in the libraries and websites, as for the empirical review section the researcher focused on researches that have been done within the country and outside of the country. This helps in providing thoughtful ideas of the topic being researched, unresolved problems, conclusions, suggestions and suggested areas in which further research will be undertaken.

2.2 Important key concepts definitions

Disability

The term disability is referred to as problems experienced in either one or in three functioning areas. The International Classification of Functioning also may be used to comprehend and evaluate the beneficial elements of performance like the functions of the body, activities, involvement and the facilitation of the environment. ICF approves unbiased language which does not differentiate, for example, disability type and the cause of disability, and “physical” and “mental” health. These “conditions of health” can be diseases, injuries, and disorders, while “impairments” include particular body functions decrements and body structures, frequently recognized as symptoms of conditions of the health.

In this study disability is defined as the functional result of the interaction between the environment and a person with impairment (as the outcome of any health condition).

Healthcare access

Excessive expenses, transportation and health services affordability and are two primary factors why the individuals who are disabled don't acquire the necessary care in health in the nations with low-income 32%-33% individuals who are disabled are not able to manage health care as related to the 51% of individuals who are disabled.

The physical obstacles, irregular buildings inaccessibility (such as hospitals, health centers), medical equipment inaccessibility, bad sign languages, tight door ways, interior steps, insufficient toilet services, and parking areas that are inaccessible generate health care facilities barriers. For instance, females with difficulties in mobility are frequently not able to attain some service like the breast and cervical cancer screening just because the tools (such as the examination tables) are not adjustable in their height also mammography tools can only accommodate female who can stand up.

2.3 Theoretical review

Equity theory

According to the Global Equity Gauge Alliance (GEGA) (2003), health equity implies attempts to guarantee that all people have complete and equal access to opportunities that allow them to lead healthy life and all avoidable health inequities, and health disparities need to be eliminated. Latts (2008) describes health equity as a means that everyone should, in practice, and not just in theory, be able to access and use suitable health services in practice, not just in theory.

Goddard and Smith's equity theory (2001) argues that health services should not only be for the dominant population groups alone.

This means equitable use and access of health services, given that some people will need more health care than others, such as the elderly and the disabled individuals. The theory, describes the factors that may hinder the provision of equity health service delivery as low education, lack of information (alertness), age, sex, low income, price of medicines, and spatial variables such as distance from health centers, which is the nearer the health facility the lower the opportunity cost of time, hence more access to health services. The theory and GEGA (2003) also argue that socio-economic features and discrimination against marginalized groups such as the elderly may hinder their rights to access health services. Therefore, unless the adverse effect of these variables is resolved, it will be hard to achieve equal access and use of health services fairly. This theory underpinned this study as the theoretical factors were adapted to the study.

On the other side, the theory does not define individuals such as health care professionals and caregivers and families who can assist focus attention on wellbeing of the individuals who are disabled, help empower the individuals who are disabled to take more control over their health choices, bring them to health centers and thus access free health services. The theory does not demonstrate these as the part of the indicators that can determine the individuals who are disabled access to free health services, hence the theory's weakness.

The sick role theory

This theory explains that when a person gets sick, they adopt a function of being ill. The sick role as proposed by Parson 1951) has got four primary elements: 1) a person isn't liable of his or her condition and isn't supposed heal himself or herself unless they seek for help; 2) he or she is not allowed to perform any ordinary functions or duties; 3) general acknowledgement that to be sick is not a desirable state; 4) a

person is supposed to try to find medical help and to abide by in order to promote recovery. The theory of Parsons tried to define typically seen behavior in individuals who are ill. However, while groundbreaking, the sick role did not account for variation in illness behavior. As a outcome, scholars have suggested multifaceted models and theories which identify factors affecting health care seeking (Wolinsky, 1988b)

Suchman's stages of medical care and illness.

It shows the five stages of the decision making of an individual in the process of determining to either utilize or not to utilize healthcare: 1) experiencing symptoms by the individual which includes soreness, emotions, and accepting the experience as an illness symptom; 2) the sick role assumption. In this stage, he or she also investigates her or his rest referral system¹ to validate the sick role and also to explore alternatives for treatment; 3) contacting medical care. In this phase a person aims to seek health care organization professional. But, the rate that a he or she comes to this stage is determined through their membership in the unsophisticated and sophisticated social networks. If his or her social network is unsophisticated, he or she will have a tendency of delaying to contact medicinal treatment through continuing the previous early stages longer than an individual that are sophisticated network associate; 4) assuming the role of a dependent-patient through accepting the health care treatment from the professional. This phase can be interrupted if the person and the health care professional provider have different views of the illness; 5) individual recovering from illness. The individual recovers from relinquishing their role as patient. Never the less, if an illness is not curable, a person may assume a position that is a chronic illness (Wolinsky, 1988b).

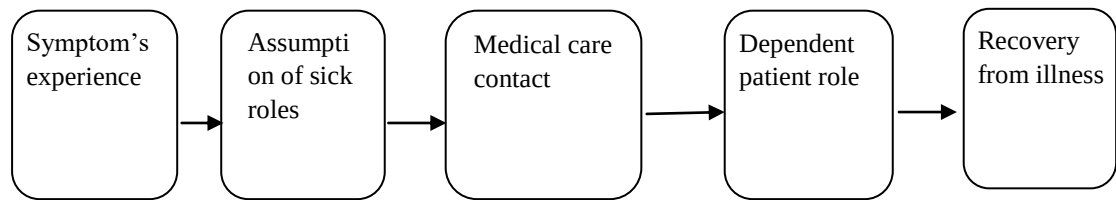


Figure 2.1: Suchman's Stages of Illness and Medical Care

2.4 Empirical literature review

Badu *et al*, (2016), researched on barriers of health care access among individuals who are disabled in Ghana, Kumasi Metropolis. The findings of the analysis were produced using statistics of description and regression. The study discovered different barriers to access to healthcare among various types of disability and groups in the socio-demographic aspect. In order to mitigate barriers health facilities should be redesigned and resourced so as to be friendly to more individuals who are disabled. In addition, recommendation were made such as, a deliberate attempt should be made as allow accessible health equipments for individuals who can't see in reading, and interpreters for sign language should be present so as to interact with hearing impaired people. The main priority of the health service providers is the guarantee a delivery system approach that is sensitive to gender issues.

Vergunst *et al*, (2017), conducted a survey on access to health care for persons with disabilities in rural South Africa. A quantitative survey as well as interviews of 773 respondents in 527 households was used in this study. The outcome indicates that, people who are disabled have a greater level of needs in health that are unmet relative to people who are not disabled. The people who are disabled in rural area in Madwaleni South Africa experienced considerably increased barriers to health care access relative to people who are not disabled. As the severity of the disability increased so did the barrier. But also the barrier decreased with increased educational level, being in a household that does not members who are disabled and with age.

Moreover the study indicated that the health care access in the South African rural is highly an issue for individuals who are disabled than is for individuals who are not disabled due to the fact that the barriers they face are more as related to the other group. This implies that there is need to oversee the health issues due to disability in order to solve integration and social problems.

Gibson and O'Connor, (2015), conducted a study focusing on access to health care for people who are disabled. It aimed at a systematic review of studies that were published in determining whether disability can hinder access to health care and attempting the identification of which body structures, activities and functions, and environmental factors and personal factors, interrelate with the wellbeing situation in order to restrict accessibility. Results established that, people under the age of 65 were economically poor and reported to have experienced stroke had access to health care which was less and included adequate inferior prevention, compared to elderly individuals who had experienced stroke, hence had less chances for attending for the most important care evaluation. Furthermore individual factors affecting healthcare access for children that have unique needs in healthcare are: to have a career experiencing depression, those whose parents are in bad health and those who lack and come from less educated and poorer families. The study proposes that, improvements need to be monitored to make sure ongoing adherence. Local champions will need to conduct solid physical audits in general practices and hospitals. Additionally local transportation accessibility might enhance the participation of the patient to hospitals and even primary care that is home based for individuals who are disabled to enhance health care satisfaction.

Kuper and Bright, (2018), conducted a systematic review of access to general healthcare services for individuals who are disabled in LMIC. Studies comparing access to general healthcare services by people with disabilities to those without disabilities from LMICs were included. Eligible health care measures included: utilization, coverage, adherence, expenditure, and quality. There was proof that utilization of healthcare services was greater for people with disabilities, and

healthcare spending was greater. There were less steady variations in access policies between people with and without disabilities. However, the broad variation in disability and access results, made comparisons hard across studies. The study concludes that, developing popular metrics for evaluating disability and healthcare access will enhance the accessibility of high quality, similar data, so that healthcare access for individuals who are disabled can be controlled and enhanced.

John, (2016), conducted paper on challenges faced by women who are disabled in access and use of maternal healthcare services in Ghana using Attride-Stirling's thematic network framework in data analysis. The findings indicate that even though women who are disabled wish to obtain institutional maternal healthcare, their disability has often made it hard for such women to travel to access qualified care, as well as gain access to unfriendly physical health infrastructure.

Further associated issues of access are: the insensitivity providers of healthcare and absence of understanding concerning the maternity needs and care for women having disabilities, service providers with adverse attitudes, the perception by other people that women who are disabled ought to be asexual, and information on health that isn't specific in addressing the particular maternity care needs for women who are disabled. The healthcare services for maternal women which are intended to tackle the needs of women who are not disabled may not have flexibility and sensitivity in meeting the special needs of maternity care for women who are disabled. Therefore the desirable solution is to have more cultural skills that are related to disability and healthcare providers should be trained for patient centered services together with providing transport that is friendly for disabled individuals and healthcare facilities and services.

Badu *et al*, (2015), reported a study on financial access to healthcare among people with disabilities in the Kumasi Metropolis, Ghana. Data analysis engaged 95% CI descriptive and analytical statistics. Results show that, female respondents were more than male respondents, almost a third of the respondents did not have education that

was formal and the unemployment rate was 28.6. Expenditure on healthcare on average monthly basis was GHC 21.46 (USD 6.0) as it accounted for 9.8 percent of the income of the respondents. The other factors like gender, age, disability type, literacy level, employments, and if they stayed with their members of the family showed significant impact on the mean monthly expenditure on healthcare. The costs on transport, distance travelled to facilities, and healthcare payment sources, their connection with healthcare access was significant. The major challenge for individuals who are disabled remains to be the financial access to healthcare. Thus procedures in financing healthcare costs for individuals who are disabled are immediately required to enhance them in accessing healthcare.

Anthony, *et al*, (2017), conducted a study to assess the impact and uses of the disability common fund among people with disabilities in Kumasi Metropolis in Ghana. Findings stated that the disability common fund was used for a variety of reasons, which could benefit the funds of the recipient. These included procuring assistive equipments, creating awareness, enabling the environment, payment of school fees of dependents and supporting beneficiaries accessing healthcare.

Although participants complained about insufficiency of the fund and delays in releasing of funds to the beneficiaries, the fund has had some beneficial effects on their life. It was suggested in his research that the fund be increased and disbursed in a timely way in order the common disability fund to serve its intended objective.

2.5 Research Gap

In the recent years, significant developments have been produced to make healthcare obtainable and reasonably priced in Tanzania. As the result child and maternal mortality rates have been declining including incidence of diseases such as malaria. Healthcare demands include promotions in health; preventive care for instance immunization, and illness treatment, as well as specific services referrals. Health and disability are somehow interconnected since disability is linked to a broad spectrum

of main conditions of health hence healthcare is essential in order to prevent and treat impairments.

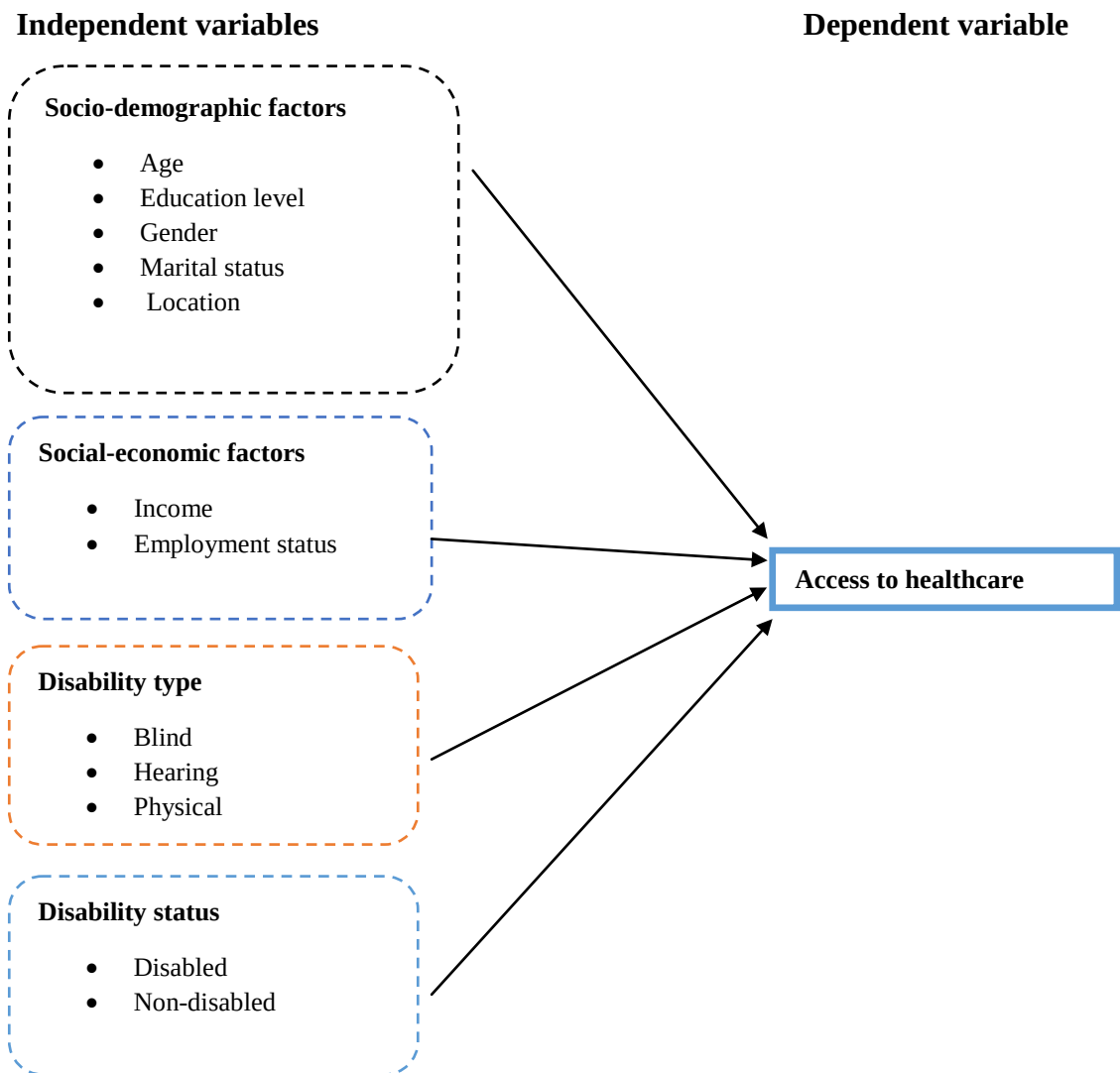
A number of studies have been conducted on access to health care for people with disabilities. Vergunst et al., (2017) studied access to healthcare for people with disabilities in rural South Africa; the findings showed that healthcare access in South African rural areas for disability persons are more of problem than for individuals who are not disabled in thus the barriers they face are more. Badu et al., (2016) studied access to healthcare barriers for people with disabilities in Kumasi and found that there are distinct types of disability and socio-demographic groups have distinct barriers to access.

Sakellariou and Rotarou , (2017) studied on access to healthcare for men and women with disabilities in the UK: secondary analysis of cross sectional data and found that people with disabilities reported poorer access to healthcare, with transportation, cost and long waiting lists being the primary barriers.

Generally according to my understanding, there has been no study in Tanzania on health care access for people with disabilities, which is why this study intends to fill this gap of knowledge by analyzing on access to healthcare by people with disabilities. The focus is on identifying the difficulties that people with disabilities face when it comes to health care access.

2.6 Conceptual framework

Conceptual framework is a diagram that showing the relationship between access to healthcare and people with disabilities in Morogoro region. The diagram below demonstrates access to healthcare as well as other factors that may influence the level of healthcare access for people with disabilities in Morogoro. Depending on the level of healthcare access for people with disabilities, the relationship can be either negative or positive.



Source: Researcher's own source, 2019

Figure 2.2: Conceptual framework.

From the above figure the variable which is dependent is access to healthcare and the variables that are independent consist of socio demographic factors, socio economic factors, and disability type and disability status. Conceptual framework explains one of the above determinants or the combination of all the factors of healthcare access.

2.6.1 Relationship between dependent and independent variables.

Gender and access to healthcare

Male and female without disability had less probability of having unmet needs in healthcare relative to individuals who had disability. Women who have disabilities constantly face increased obstacles relative to men having disabilities. Men who are disabled were also having high probability in facing problems compared to men who are disabled. People without disabilities had less probability in having unmet needs in healthcare unlike individuals having disabilities. While women having disabilities are constantly having more obstacles than men with disabilities, men who are disabled were also highly probable in experiencing barriers unlike men who are not disabled.

Age and access to healthcare

The respondent's age affects health care accessibility. For instance elderly people with disability face many challenges in accessing health care than the average aged group. The work of Henning-Smith *et al*, (2016), mentions that higher expenses of health and absence of affordable transport increases barriers faced by older adults in healthcare. The study found that the group that had higher probability of facing barriers was older adults who were disabled.

Location and access to healthcare

People with disabilities in rural areas confronted considerably increased healthcare access barriers relative to people who did not have disabilities residing in urban area. Transport-related problems were particularly prominent barriers due of the harsh environment and long distances that need to be covered in order to enhance health care services access.

Education level and access to healthcare

An individual with disability's level of education is more likely to decrease barriers in healthcare access. This may be due to credible relationship between educational disadvantage and poverty. Higher education level is therefore more likely to decrease the barrier in health care access. (Vergunst *et al*, 2017).

Social economic status and healthcare access

Socio-economic status such as employment status and income level has an influence in health care services access. Employed individuals with disabilities are higher probability to decrease healthcare barriers service access related to individuals who had disabilities. This also applied the same in the rate of income in these two groups on healthcare service access.

Disability status accessibility to healthcare

Most of the people with disabilities have got higher chances of not getting health treatment when needed, but considerably lesser not disabled have the similar situation reported. Thus, individuals who are disabled have greater levels of healthcare needs that are unmet. It is also endorsed by the report by World disability and other sources (Casey, 2015). On average, individuals with disabilities spend three or four times the sum on whole treatment in health and transport expenses related to individuals who are not disabled, based on the disability degree.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter described in details on the methodology and research design that were employed in the study. It includes the theoretical model, econometric model, the specific model that will be used to derive the desired results, the definition of variables used in data analysis and the description of the data source utilized in the research.

3.2 Area of study

According to Msabila and Nalaila, (2013) area of the study refers to formal delineated geographical boundaries. Adam & Kamuzora (2008) argue that, area of study refers to the place which the research will be conducted. This study was conducted in Morogoro region.

Morogoro region lies between latitude 5° 58" and 10° 0" to the South of the Equator and longitude 35° 25" and 35° 30" to the East. It is bordered by seven other Regions; Arusha and Tanga regions to the North, the Pwani/Coast Region to the East, Dodoma and Iringa to the West, Ruvuma and Lindi to the South. The Region is administratively divided into 6 districts: Mvomero, Kilosa, Kilombero, Ulanga Morogoro Urban and Morogoro Rural, (URT, 1997)

3.3 Research design

In conducting the research, cross sectional data was used. The reason for adopting the case study is that, the design will ensures reliability of result and making research possibly more efficient hence giving maximum data with minimum expenditures on effort, time and funds than the experimental and survey techniques.

Moreover, case studies design is appropriate to collect information that describe, explore and help investigator to understand social life, (Farquhar, 2012).

3.4 Target population

Cooper and Schindler (2001), argued that population is the whole compilation of components in which the inferences are made. All items in any field of inquiry constitute a 'Universe' or 'Population.' A complete enumeration of all items in the 'population' is known as a census inquiry (Kothari, 2004). The target population of the study was disabled people and non disabled people in Morogoro municipal council.

According to McMillan and Schumacher, (2006) the target population is the group of element or cases whether individual, object or events that conforms to specific criteria to generalize the result of the research.

3.5 Sample size and sampling technique

3.5.1 Sample size

According to Connaway, (2010), sample is a selection of units from the total population to be studied. It is usually drawn because it is less costly and time consuming to survey than dealing with the population or it is impossible to survey the whole population.

According to Manheim (2010) the sample is drawn from the population which is researched in order to make inferences concerning the population as a whole. Representative sample is one that accurately reflects the population being sampled. The sampling frame is the source list from which the sample is drawn and contains the names of all items. It's a list, directory or index of cases that a sample can be selected. The optimal sample size of this study was a total of 200 respondents. Which will include disabled and nondisabled people located Morogoro municipal council.

Due to unknown population all disabled and nondisabled people, study employed the Cochran formula to find the optimal sample size of respondent which will reflect the idea of entire population. Cochran (1977) developed a formula to calculate a representative sample for proportions as;

$$n = \frac{Z^2 pq}{e^2} \dots\dots\dots (3.1)$$

Where

n = sample size

Z = is the selected critical value of desired confidence level (in this study is 99% equal to 2.58)

p = is the estimated proportion of an attribute that is present in the population $p = 0.5$, equal to 50%) and $q = 1 - p$

e = desired level of precision and in this study is selected 0.09

Thus in this study, a sample size is calculated as follow;

$$n = \frac{2.58^2 (0.5)(0.5)}{0.09^2}$$

$$n = 200$$

So, the optimal sample size of the research is about 200 respondents.

3.6 Sampling techniques

The study used the sampling technique of probability and non probability sampling.

3.6.1 Convenient systematic sampling

This technique was used in picking respondent who responded to questionnaires and interview questions. Researcher targeted people with disability and those without disability located from Morogoro municipal council. The available respondent attending any health service provider in Morogoro regional helped in obtaining the

required information of what exactly factors determine the access of health care services among people with disability.

3.7 Data collection methods

According to McMillan and Schumacher, (2001) data collection may be done with measurement techniques, extensive interviews and observations, or a collection of documents. However, depending on the cost of obtaining data, the type of decision to be made on the basis of the evaluation, the size of the program, and the time available to conduct the evaluation (Posavac and Carey, 1997) also influenced the research study. The researcher used questionnaires, interviews methods to collect data from Morogoro municipal council.

3.7.1 Questionnaire method

The questionnaires were administered to the respondent attending any health service provider in Morogoro. Questionnaires were developed for the sampled citizen in the study. The questionnaire was designed in a manner that, to ensures study participants' anonymity when conducting surveys which enhanced more open and honest responses to the questions asked by the researcher. Also questionnaires was be written in Kiswahili so as all respondent will be able to fill comfortable.

A researcher employed both open-ended and close-ended questionnaire to the respondents for the purpose of giving a wide chance to them to provide the information through views, ideas, opinions and suggestions about the problem and the way to solve it. Also the relevance of the tools for both open-ended and close-ended questionnaires is that of providing freedom of writing information relating to the problem.

3.8 Variable Description and Measures

Variable description and measurements includes relating the variables that the study have used which involves how they are denoted, their meanings and how each one of them are going to be measured. The table below shows the description and measurement of the variables used in the study.

Table 3.1: Description of variables

S/N	Variable	Measurement	Types of variable	Expected sign
1	Access to healthcare	1 access healthcare, 0 otherwise	Nominal	
2	Education level	level of education as:(0= otherwise 1= primary) (1=secondary,0=otherwise) (1= tertiary, 0=otherwise)	Nominal	+
3	Age	Age in year	Continuous	-/+
5	Gender	1=Male, 0 otherwise	Nominal	+
6	Income level			+
7	Employment status	1= employed 0 if otherwise	Nominal	+
8	Marital status	single (1=single, 0 otherwise) married(1=married, 0=otherwise) separated(1=separated,0=otherwise)	Nominal	+
9	Location(distance to healyhcare)	Kms	Continuous	+
10	Disability status	1= disabled, 0=otherwise	Nominal	+

3.9 Data analysis and processing methods

This study employed quantitative method of data analysis. To ensure easy analysis, the questionnaire was coded according to each variable of the study to ensure the margin of error is reduced to assure accuracy during analysis. The quantitative analysis applied by using descriptive statistics. Data was analyzed by using STATA program and presented using tables and pie charts to give a clear picture of the research findings at a glance. Also the study will employ probit model for estimation technique.

3.10 Econometric model

This study employed binary probit model to analyze the barriers in accessing health care services since the dependent variable is a dummy variable (either presence of barriers or otherwise) Binary-choice models assume that individuals are faced with a choice between two alternatives and the choice of any of the two depends on certain factors (Robert & Daniel, 1998). Given that the dependent variable Y is binary, and can be regressed on a number of independent variables (Maddala, 1977), the probit model can be presented as:

$$Prob(Y = \frac{1}{X} = \Phi(X'\beta) \dots\dots\dots (3.2)$$

Whereby Prob denotes probability, Φ denotes the cumulative standard normal distribution function and β is a vector of the parameters that are to be estimated (Robert & Daniel, 1998) Let's observe some variable say Y which takes the values between 0 and 1 and define the latent variable Y^* as:

$$Y^* = X_i\beta + \varepsilon \dots\dots\dots (3.3)$$

Where Y^* is the dependent variable of barriers in accessing health care services, X_i are the independent variables that influence the accessing the health care services such as age, gender, education, household size, difficulties, household with disability persons and among others, β are the parameters coefficients to be estimated, ε is the error term that is normally distributed with N (0, 1) Here, the dependent variable Y can be observed if $y > 0$ which signifies adoption, and $y = 0$ which signifies no adoption. i.e

$$Y_i = \begin{cases} 1, & \text{if access healthcare} \\ 0, & \text{otherwise} \end{cases} \dots\dots\dots (3.4)$$

Therefore the probability that $Y=1$ given X is estimated using the standard normal cumulative function which was illustrated by the equation below

$$Prob(y_i = \frac{1}{X} | S) = \int_{-\infty}^{-S} (2\pi)^{-1/2} e^{-s^2/2} ds \dots\dots\dots (3.5)$$

Where $S = X_i\beta$

The standard normal transformation $\Phi(S)$ constraints for the probability to lie between 0 and 1

Equation (iii) can be interpreted as probability expressed as conditional probability that disability person faced the barriers in acquiring health care services given certain identified factors X_i . The above model will be estimated using the likelihood function given as;

$$L = \prod_{i=1}^n \theta(X_i\beta)^{y_i} [1 - \theta(X_i\beta)]^{1-y_i} \dots\dots\dots (3.6)$$

Nevertheless it is convenient using the log likelihood function given as

$$\ln = \sum_{i=1}^n \{y_i \ln[\theta(X_i\beta)] + (1 - y_i) \ln[1 - \theta(X_i\beta)]\} \dots\dots\dots (3.7)$$

Therefore, we look for $\hat{\beta}$ estimates that maximize the log likelihood function. The probit model facilitates in interpretation of the significance of coefficients and the sign. It is therefore appropriate to estimate the marginal effects in order to interpret both the sign and magnitude. The marginal effect shows the change in probability of $y = 1$ per unit change in independent variable X . It is calculated as

$$\partial p / \partial x_j = \theta(X_i\beta) \beta_j \dots\dots\dots (3.8)$$

Model specification

The assumption here is that the probability of an individual or disability person to be faced with barriers in accessing the health care services or not is determined by some factors (Maddala, 1977), such that:

$$Y_i = \beta X_i + \varepsilon_i \dots\dots\dots (3.9)$$

Where Y_i a dependent variable is made up of 1 for presence of barriers in accessing the health care services and 0 if otherwise

X_i Explanatory variables

β is a vector of parameters to be estimated

ε_i is stochastic disturbance term or error term

Thus, the econometric model containing the all the explanatory variable such as demographic, socio-economic as explained in equation below;

$$Y_i = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + \beta_8 X_8 + \varepsilon_i$$

..... (3.10)

Where

Y_i = access healthcare

X_1 = age

X_2 = location

X_3 = Gender

X_4 = disability status

X_5 = employment status

X_6 = income

X_7 = educational level

X_8 = type of disability

3.11 The validity and reliability of the study.

3.11.1 Validity of the research instrument

Validation of the research instrument was done by using of a pilot study. Prior to the actual study, pilot test of the measures will be conducted against prospective sample population in order to measure validity as described by Mugenda and Mugenda, (2003). The questions were re- examined and ensured that they are not unclear, confusing, or potentially offensive to the respondents leading to subjective responses.

The wording of items will be carefully modified based on the pilot test outcomes and reviewed. After administering the instrument to the selected respondents, the data obtained was a true reflection of the variables under study. The subject approached during piloting was marked to avoid them being applied in the final study. The feedback is used to validate the instrument for the study.

3.11.2 Reliability of the research instrument

Reliability refers to the degree to which scores obtained with an instrument are consistent measures of whatever the instrument measures (Fraenkel and Wallen, 2003). If it provides consistent results then the measuring instrument is reliable. (Kothari, 2004). The instruments in reliability were established through a split half method. In this approach, the instruments were randomly divided into two groups in that the questionnaires with odd numbers grouped together and those with even numbers together. The questionnaires were administered to 28 respondents in a pre-test. The two sets were scored and then correlated using Pearson's correlation coefficient and a reliability coefficient is established to show how negative or positive correlation.

3.12 Ethical consideration

While making sure that the privacy right adheres to the act of knowledgeable approval without cheating, the professional codes are significant in order in protecting the social research participants as of danger (Wassenaar and Mamotte, 2001). Ethical misunderstandings are possibly to occur in data collection and publication of the findings of the research. Thus, the research adheres to the codes of research in data collection ethics. The expertise sense was conducted to give respect to the respondents. Also, the researcher required to have approval from the local authority prior to undertaking the research activity. The respondents were assured that the information they gave was confidential and used exclusively for stated purposes of the research.

CHAPTER FOUR

PRESENTATION OF FINDINGS

4.1 Introduction

This chapter described and presented all the findings which were analyzed through STATA. The sample comprised of 200 disabled and not disabled individuals who were considered as the main utilizes of health care services in Morogoro. It involved specific objectives which were to analyze the association between type of disability and access to healthcare, to analyze the factors influencing access to healthcare by and the proportions in healthcare access among people with disability and people without disability.

4.2 Descriptive statistics

This study used individual level data which was collected from field survey which took place in mid February 2019 to early April 2019. The collection of data was through visiting individuals who are disabled and those who are not disabled and interviewed them. However, the study used a sample of 200 respondents.

Table 4.1: Descriptive statistics of the estimated models

Variable	Obs	Mean	Std. Dev.	Min	Max
Age	200	35.39	12.78967	5	70
Gender					
Male	200	0.745	0.436955	0	1
Female	200	0.255	0.436955	0	1
Marital Status					
Married	200	0.275	0.447635	0	1
Unmarried	200	0.725	0.447635	0	1
Occupation					
Employed	200	0.225	0.41863	0	1
Unemployed	200	0.775	0.41863	0	1
Education level					
Non-Formal Education	200	0.15	0.357968	0	1
primary Education level	200	0.78	0.415286	0	1
secondary Education level	200	0.025	0.156517	0	1
Higher Education level	200	0.045	0.207824	0	1
Income level	200	264910	139860.7	45000	750000
Location	200	03.57308	2.362284	1	15
Disability Types					
Visual Disability	200	0.295	0.4571872	0	1
Hearing Disability	200	0.66	0.4748975	0	1
Physical Disability	200	0.045	0.2078243	0	1

Source: (Field data, STATA Output, 2019)

Age of the individual

According to table 4.1, the age of the individual with disability average was 35.39 years while the standard deviation was 12.78967. This shows the age composition of the population across all rounds. All four population pyramids for all individuals is shaped representing that Morogoro residents is characterized by a middle group of people aged 0 to 35 years and gradually increases with increasing age, such a inhabitants organization is typical of a developing country like Tanzania. The minimum age was 5 while the maximum age was 70.

Education level

Primary education was another variable among the disabled individuals surveyed. Table 4.1 showed that an average of 78% among the respondents had attained

primary education with a standard deviation of 0.415286. This implies that grade seven was the highest grade completed among the respondents.

Gender

Gender is a state of being a male or a female. According to table 4.1 above the mean number of disabled and non disabled respondents 74.5% were male with a standard deviation of 0.436955. This implies that the disabilities among male individuals are higher than to female individuals which were averaged 25.5%. Generally, large percent of the respondents in Morogoro were found to be male as compared to female.

Marital Status

Refer to table 4.1 Marital status was another variable in which the average number was 72.55% with a standard deviation of 0.447635 which indicates number of the respondents are unmarried.

Employment status

The employment status indicates the mean average was 77.5% with a standard deviation of 0.41863. This implies that an average people with disabilities in Morogoro were found to be of larger proportions as compared to that of employed status which was 22.5% of the population with standard deviation of 0.41863. Employment status is the most important factor in influencing individuals with disabilities to access health care since the more peoples with disabilities get employed the more they can be able to access the healthcare services as compared to the peoples without any employment.

Income status

Income level of individuals with disabilities was found to be averaged with a mean of in which the mean average was 264,910 with standard deviation of 139860.7 the minimum average income was Tshs. 45,000 and the maximum was Tshs. 750,000.

Location

From the table 4.1 above the distance to access healthcare for people with disabilities is an important factor among people with disabilities. The average mean of the persons with disabilities to access healthcare was found to be 3.57308. That is the location of the health care access gives the average mean of about 35.73% with standard deviation of 2.362284. This implies that the average mean of the location of the individuals with disabilities to access healthcare explained by 35.7% as compared to persons without disabilities.

4.2 Objective One: Proportions of healthcare access between people with disability and people without disability.

4.2.1 Disability status of the respondents in Morogoro

Table 4.2 Disability Status

Disability status	Freq.	Percent	Cum.
Disabled	104	52	52
Not Disabled	96	48	100
Total	200	100	

Source: (Researcher's Findings, 2019)

From table 4.2 above shows the disability status of the people in Morogoro selected sample population. The results from the table indicate that about 52% of the respondents were disabled with different disability status while the remaining 48% of the sample population was found to have no any disabilities. The response implied that the number of respondents having disabilities were higher as compared to those without any disability type. Among the selected sample population majority of respondents were disabled as compared to those without any disabilities.

4.2.2 Awareness about disability rights

Table 4.3 Indicate awareness about of the right of every person with disability in Tanzania to access healthcare and other health services equally, regardless of the type of disability.

Awareness	Freq.	Percent	Cum.
Not Aware at All	9	4.5	4.5
Yes, Quite Aware	73	36.5	41
Yes, Little Aware	97	48.5	89.5
Yes, Full Aware	21	10.5	100
Total	200	100	

From the above table 4.3, the respondents were asked if they are aware of the right of every person with disability in Tanzania to access healthcare and other health services despite the type of disability. The results indicate that majority of the people about 48.5% of the sample selected had little knowledge on the awareness about the rights of persons with disabilities followed by 36.5% of the people whose are quite aware of the rights and the rest 4.5% and 10.5% were not aware at all and were full aware respectively about the rights of every person with disability in Tanzania. The implication behind this is that majority of the people in Morogoro among the sample selected had a little knowledge on about the rights of the disabled in Morogoro.

4.2.3 Type of disability

Table 4.4 Indicate the type of disability among people in Morogoro.

Do you have any disability?	Freq.	Percent	Cum.
No disability	15	7.5	7.5
Hearing disability	120	60	67.5
Visual disability	56	28	95.5
Physical disability	9	4.5	100
Total	200	100	

From the table 4.4 above the respondents were asked if they have any kind of disability. The results indicated that majority of the respondents about 60% were found to have hearing disability followed by 28% with visual disability and 4.5% of the people with physical disability with 7.5% persons without disabilities. The results suggested that majority of the respondents were found to have hearing disability as compared to those with physical disability, visual and none. The results implies that with the sample population selected people with hearing disability in Morogoro is greater than that of physical disabilities and visual disabilities this might be due aging, injury, excessive noise exposure, viral infections, meningitis or diabetes while those with visual disabilities might have been caused by to injury to the eyes, inherited conditions of blindness and vision impairment, glaucoma and age related Macular degeneration.

4.2.4 Barriers encounter

Table 4.5 The response on the barrier encountered in accessing health care services.

	Frequency	Percent	Cum.
Not Encounter Problem	82	41	41
Encounter Problem	118	59	100
Total	200	100	

The table 4.5 above indicate the response on the barriers encountered in accessing services in health care. Majority of the individuals who are disabled about 59% of respondents encountered problems in accessing health care whereby about 41 percent of the respondents responded negatively that is they didn't encounter any problem in accessing health care. The implication behind this is that majority of the respondents encountered problem in accessing health care and this might be caused by various factors such as transport costs, distance (location), income level, employment status and type of disability one is having.

Objective Two: Analyse the association between type of disability and access to healthcare.

In order to access the association between type of disability and access to healthcare services cross-tabulation was used and the Kendall correlation coefficient was employed to give the direction and strength of the association between variables. Kendall's tau-b correlation coefficient is a non-parametric measure of the strength and direction of the association that exists between two variables measured.

Table 4.6 Cross- Tabulation between persons with disability and access to healthcare.

Disability Persons n (200)	HealthCare Access		n
	Access	Not Accessing	
	104	96	200
Kendall's taub = -0.126 ASE =0.072			

(Source: Researcher's Findings, 2019)

The result from the table 4.6 between disability persons and access to health care, the results suggested negative correlation between persons who are disabled and healthcare access was found to be statistically significant at 10% given that the Kendall's taub was -0.126, 0.072 p-value that is 10% level of significant. The results from the above table suggested that persons with disability had negative effect on accessing to healthcare services in Morogoro. The result implies that persons with disability face barriers in accessing healthcare.

Table 4.7 Cross- Tabulation between persons without disability and healthcare access

Persons Without Disability n (200)	HealthCare Access		n
	Access	Not Accessing	
	104	96	200
Kendall's taub = 0.169 ASE =0.070			

(Source: Researcher's Findings, 2019)

The result from the table 4.7 between persons without disability and access to health care, the results suggested that there is positive correlation between persons without disability and access to healthcare and was found to be statistically significant at 10%

given that the Kendall's tau-b was 0.169, 0.070 p-value that is 10% level of significant. The results from the above table suggested that persons without disability had positive effect in accessing to healthcare services in Morogoro. The result implies that persons without disability face no barriers in accessing healthcare.

Table 4.8 Cross-Tabulation between persons with disabilities and persons without disabilities

	Value	Asymp. Std. Errora	Approx. Tb	Approx. Sig.
Ordinal by Ordinal Kendall's tau-b	-.961	.039	-32.247	.000
N of Valid Cases	201			

(Source: Researcher's Findings, 2019)

The result from the table 4.8 between persons without disability and persons with disability, suggested that there is weak and negative correlation between persons without disability and persons with disability and was found to be statistically significant at 5% given that the Kendall's tau-b was -0.961 with the p-value of 0.039 which is less than 5% significant level. Therefore there is no significant effect between persons without disability and persons with disabilities in accessing to healthcare services in Morogoro. The result implies that persons without disability can access healthcare easily as compared to that with disabilities. .

Table 4.9 Cross-Tabulation between hearing disability and healthcare access

	HealthCare Access		
Hearing Disability	Access	Not Accessing	n
n (200)	132	68	200
Kendall's tau-b = -0.366 ASE =0.050			

(Source: Researcher's Findings, 2019)

The result from the table 4.9 between hearing disability and access to health care, the results suggested that weak and negative correlation between hearing incapability and healthcare access and was found to be statistically significant at 10% given that the Kendall's tau-b was -0.366 with the p-value of 0.050 less than 10% significant

level. The results from the above table suggested that hearing disability had negative effect on accessing to healthcare services among individuals with hearing disability. The results implies that hearing disability limit the people to access healthcare service.

Table 4.10 Cross-Tabulation between visual disability and healthcare access

	HealthCare Access		
Visual Disability	Access	Not Accessing	n
n (200)	59	141	200

Kendall's taub = 0.365 ASE =0.043

(Source: Researcher's Findings, 2019)

The results from the above table 4.10 indicate that there was a positive correlation between access to healthcare and visual disability which was statistically significant at 5%, given that the Kendall's taub 0.365 with p-value =0.043 less than 10%. The result suggested that visual disability had positive implication on healthcare access among individuals who are visual impairment in Morogoro. Implying that the more the number of people with visual disabilities the more the access to health care increases.

Table 4.11 Cross-Tabulation between physical disability and healthcare access

	HealthCare Access		
Physical Disability	Access	Not Accessing	n
n (200)	9	191	200

Kendall's taub = 0.032 ASE =0.065

(Source: Researcher's Findings, 2019)

There was a positive correlation between physical disability and access to healthcare of people in Morogoro. The association was statistically significant at 10%, given that the Kendall's taub 0.032 with p-value of 0.065 at 10% significant level. The results suggested that physical disability had positive implication on the access to healthcare services. The implication behind this is that the more the physical disability increases the more the access to healthcare services.

4.3 Objective Three: To analyze the factors influencing access to healthcare in Morogoro region, Tanzania.

Depending on the nature of dependent variable being binary the analysis on the factors influencing access to healthcare service by is then analyzed using probit regression.

4.3.1 Probit Regression

To obtain the estimates probit regression was run and the marginal effects were calculated. probit regression was used given the nature of the dependent variable which is a dummy in nature as it took two values 0 and 1, like 0 for not facing any barrier to reach health facilities and 1 for the access to health facilities to get the effects of the independent variables to the dependent variables marginal effects were computed.

The Present study used binary probit model applying the maximum likelihood estimation technique. The goodness of fit was measured by the likelihood ratio chi-square of 141.79 with 11 degrees of freedom and pseudo R-square of 0.5887 which explains fitness of the model.

The dependent variable set up in this was "access barrier" while the independent variables were age, income, gender, marital status, employment status, disability status, disability type, and education level

Table 4.12 Estimation of the results between access to healthcare and other factors.

Probit regression				Number of obs		200	
				Wald chi2(12)		103.81	
				Prob > chi2		0	
Log pseudo likelihood = -46.513486				Pseudo R2		0.6138	
Access to Healthcare	Coefficients	dy/dx	Robust Std. Err.	z	P>z	[95% Conf. Interval]	
Age	-0.0262021	-0.00682	0.0136049	-1.93	0.054	-0.0528672	0.000463
Location	-0.0228286	-0.005942	0.0648271	-0.35	0.725	-0.1498874	0.1042303
Male	1.843674	0.591806	0.3574385	5.16	0.000	1.143107	2.54424
Married	-1.008615	-0.3087399	0.3330305	-3.03	0.002	-2.0172303	-0.3558873
Employed	-0.5965267	-0.1771522	0.3899324	-1.53	0.126	-1.36078	0.1677269
Disabled	-0.353001	-0.0912173	0.2825455	-1.25	0.212	-0.90678	0.200778
Hearing disability	2.775767	0.7871336	1.189117	2.33	0.020	0.4451407	5.106394
Visual disability	2.862266	0.4665709	1.091083	2.62	0.009	0.7237826	5.000749
Income_01	0.00000729	0.00000019	0.00000206	3.53	0.000	0.00000325	0.0000113
Primary education	0.6518309	0.1959441	0.4475873	1.46	0.145	-0.2254241	1.529086
Secondary education	-0.2156738	-0.0613497	0.5820702	-0.37	0.711	-1.356511	0.9251628
Higher education	0.9904198	0.1587991	0.595215	1.66	0.096	-0.1761801	2.15702
_cons	-3.999626		1.556336	-2.57	0.010	-7.9992529	-0.9492629

NB: * 5% significance level, ** 10% significance level and * 1% significance level**

Given the results of the probit regression model in table 4.12 above the factors influencing access to healthcare by disabled people in Morogoro region, Tanzania. The fitness of the data was statistically significant given that the P-value 0.0000 is at ($P < 1\%$). And the Pseudo R^2 was 0.6138 which indeed tells us how well the maximum likelihood estimates was obtained through iteration fitting the model,

while the LR $\chi^2(11) = 147.83$ which is the log of the likelihood chi-square test with 11 degrees of freedom. The implication of the log likelihood -46.513486 is that all the parameters of the independent variables are zero meaning that the probit response can be rejected at a given significant levels.

The probit regression above indicates that access increases with an increase in the number of being married, number of being male, number of visual and hearing disability, age and increases with a decrease in income of the person with disability. The mentioned variables were statistically significant in influencing access to healthcare in Morogoro municipality Tanzania.

Some variables such as education, location, employment status and disability status were statistically insignificant implying that they were not important in influencing access to barrier for peoples with disabilities in Morogoro municipality Tanzania.

4.3.2 Marginal effect analysis results

Table 4.12 also shows the use of marginal effect is to measure the expected change independent variables as results of the change in explanatory variables, keeping other covariates constant. Since the coefficients of the probit regression can only give the direction of the effect but not the magnitude of the effect. Therefore, marginal effect is computed to interpret the coefficient given both the magnitude and direction.

4.4 Post estimation test to justify the use of the probit model

This section indicates all the econometric tests conducted after the estimation of the probit model to see whether or not the estimates will be meaningful given the results obtained. In order to analyze the factors influencing access to barrier to the people with disabilities in Morogoro, numerous test were used to justify the use of the model. The test involved the fitness of the model, several statistical measures can also be used among them are Hosmer- Lemeshow goodness of fit test, Pseudo Rsquare, Specification error (model specification).

4.4.1 Fitness of the model

Pseudo R-squared

From the regression model above the Pseudo, R² is 0.6138, the Pseudo R² can be interpreted as the measure of how well model fits the data on some occasions but not obvious. In binary regression, the interpretation of the Pseudo R² and coefficient are different because we are regressing 0 and 1 value and not the real values of dependent variables. Therefore we cannot set a range for Pseudo R² like OLS.

Hosmer-Lemeshow

The fitness of the model was examined using the Hosmer-Lemeshow test for probit regression. For the reason that chance of Hosmer- Lemeshow (0.6316) is more than 5% level of significance which means that we reject the null hypothesis (H₀) and we accept (H₁). whereby H₀ shows that there's no relationship among the elements influencing access to barrier for health care among people with disabilities and H₁ suggest that there is a relationship influencing access to barrier for health care among people with disabilities in Morogoro Municipality

Table 4.13 Hosmer- Lemeshow Test.

Number of observations	=	200
Number of covariate patterns	=	200
Pearson chi2(186)	=	179.92
Prob > chi2	=	0.6316

4.4.2 Model specification test

Another test performed was a specification error test by commanding Linktest, aiming to check whether the model was correctly specified or not. The results indicate that **_hatsq** which is the predicted value from the model is insignificant showing that the model is very well specified compared to **_haq**.

Table 4.14 Linktest for probit model

Acc_Health Services	Coef.	Std. Err.	z	P>z	[95% Conf.	Interval]
_hat	1.088823	0.1570859	6.93	0.000	0.78094	1.396705
_hatsq	0.1202948	0.0824346	1.46	0.144	-0.2818636	0.0412741
_cons	0.1406989	0.1850355	0.76	0.447	-0.221964	0.5033619

4.4.3 Classification table

This is another way of evaluating the predictions generated with the aid of the model and fit of a given probit regression model. This is, but, to expose how the model can produce accurate expected categories based on the values of the predictor variables.

Table 4.15 Classification table

Classified	----- True -----		Total
	D	~D	
+	137	13	150
-	5	45	50
Total	142	58	200

Classified + if predicted $\Pr(D) \geq .5$

True D defined as Participation $\neq 0$

Sensitivity		$\Pr(+ D)$	96.48%
Specificity		$\Pr(- \sim D)$	77.59%
Positive predictive value		$\Pr(D +)$	91.33%
Negative predictive value		$\Pr(\sim D -)$	90.00%
False + rate for true ~D		$\Pr(+ \sim D)$	22.41%
False - rate for true D		$\Pr(- D)$	3.52%
False + rate for classified	+	$\Pr(\sim D +)$	8.67%
False - rate for classified	-	$\Pr(D -)$	10.00%
Correctly classified			91.00%

CHAPTER FIVE

DISCUSSIONS OF FINDINGS

5.1 Introduction

This chapter discusses in details the findings obtained from the preceding chapter. The comprehensive discussion is more emphasized on descriptive and empirical findings. The discussion is organized in regard to specific objectives, results from the probit descriptive statistics and regression.

5.2 Discussions on the descriptive analysis.

Age of the individual.

According to table 4.1, the age of the individual with disability average was 35.39 years while the standard deviation was 12.78967. This implies the age composition of the population across all rounds. All four population pyramids for all individuals is shaped representing that Morogoro residents is characterized by a middle group of people aged 0 to 35 years and gradually increases with increasing age, such a inhabitants organization is typical of a developing country like Tanzania. The minimum number was 5 while the maximum number was 70.

Educational level

Primary education was another variable among the disabled individuals surveyed. Table 4.1 showed that an average of 78% among disabled individuals had attained primary education with a standard deviation of 0.415286. This implies that grade seven was the highest grade completed among households in rural areas, this is a bit different from others in which most of them have not attended any formal, some secondary education with an average of 2.5% with standard deviation of 0.156517 and some even further education levels of high level of 4.5% with standard deviation of 0.207824.

Gender

Gender is a state of being a male or a female. According to table 4.1 above the mean number of disabled individuals being male were 74.5% members with a standard deviation of 0.436955. This implies that the disabilities among male individuals are higher than to female individuals which were averaged 25.5%. Generally, large percent of the respondents in Morogoro were found to be male as compared to female.

Marital Status

Table 4.1 shows that marital status was another variable in which the average number was 72.55% with a standard deviation of 0.447635 which indicates number of unmarried individuals with disabilities. The implication behind this is that, the largest population of unmarried individuals was found to be dominated with disabilities being unmarried status not only that but the population of number of individuals with married status were found to be averaged 27.5% with standard deviation of 0.447635 which indicates that the 27.5% of the population found in Morogoro with number of married status were found to have disabilities. On the study conducted by Sakellariou and Rotarou (2017) on access to healthcare for men and women with disabilities in the UK based on the cross sectional survey found that women with disability were 7.2 times more likely to have unmet needs due to costs of care or medication compared with men with no disability.

Employment status

The number of being unemployed indicate the mean average was 0.775 with a standard deviation of 0.41863. This implies that an average people with disabilities in Morogoro were found to be of larger proportions as compared to that of employed status which was 22.5% of the population with standard deviation of 0. Employment status is the most important factor in influencing individuals with disabilities to access health care since the more peoples with disabilities get employed the more

they can be able to access the healthcare services as compared to the peoples without any employment kind. This study is also similar to Adams et al. (2014) on the socio-demographic factors influencing poverty and financial health care access in Flunders, who found unemployment to be a significant predictor in financial health care access among disabled people in Flunders.

Income status

Income level was found to be averaged with a mean of in which the mean average was 264910 with standard deviation of 139860. This implies that the average people with a certain level of income were found to be disabled. It is then expected that the average of income of the peoples with disabled to be as less than those without disabilities but thus is contrary to the peoples with disabilities found in Morogoro council. This implies that with that average income the respondents in Morogoro can be able to access healthcare services elsewhere.

5.3 Discussion on the differences of healthcare access between individuals having disability and people not having disability in Morogoro

Proportions of individual with and without disabilities in Morogoro

The results from the table indicate that about 52% of the respondents were disabled with different disability status while the remaining 48% of the sample population was found to have no any disabilities. The response implied that the number of respondents having disabilities were higher as compared to those without any disability type. On the study conducted by Vergunst et al. (2017) on the access to health care for person with disabilities in rural South Africa found that the mean value 23.37 for the persons with disabilities to be higher than the mean value for persons without disabilities which was 20.49 this indicated that there was more experienced barriers among persons with disabilities in South Africa.

Proportions of the individual's awareness about of the right of every person with disability in Tanzania to access healthcare and other health services equally, no matter what type of disability

The results indicate that majority of the people about 48.5% of the sample selected had little knowledge on the awareness about the rights of persons with disabilities followed by 36.5% of the people whose are quite aware of the rights and the rest 4.5% and 10.5% were not aware at all and were full aware respectively about the rights of every person with disability in Tanzania. The implication behind this is that majority of the people in Morogoro among the sample selected had a little knowledge on about the rights of the disabled in Morogoro.

Proportions of the types of Disabilities of the individuals with disabilities in Morogoro

The results indicated that majority of the respondents about 66% were found to have visual disability followed by 29.5% with hearing disability and 4.5% of the people with physical disability. The results suggested that majority of the respondents were found to have visual disability as compared to those with physical disability. The results implies that with the sample population selected people with visual disability in Morogoro is greater than that of physical disabilities this might be due to injury to the eyes, inherited conditions of blindness and vision impairment, glaucoma and age related Macular degeneration while those with physical disabilities might have been caused by acquired brain injuries, accidents as well as prenatal ethnology and postnatal ethnology.

Response on the barrier encountered in accessing healthcare.

The table above indicate the response on the barriers encountered in accessing services in health care. Majority of the individuals who are disabled about 59% of the respondents encountered problems in accessing health care whereby about 41 percent of the respondents responded negatively that is they didn't encounter any problem in accessing health care. The implication behind this is that majority of the respondent's

encountered problem in accessing health care and this might be caused by various factors such as transport costs, distance (location), income level, employment status and type of disability one is having. On the study conducted by Vergunst et al. (2017) on access to healthcare for persons with disabilities in rural South Africa found that the mean value of 23.37% for persons with disabilities and 20.49% for non-disabled indicated that individuals with disabilities experienced more barriers than those without disabilities.

5.4 Discussion on the analysis of the association between type of disability and access to healthcare in Morogoro

Association between persons who are disabled and healthcare access

The result from table 4.6 between disability persons and access to health care, the results suggested negative correlation between persons who are disabled and healthcare access and was found to be statistically significant at. The results from the above table suggested that persons with disability had negative effect on accessing to healthcare services in Morogoro. The result implies that persons with disability face barriers in accessing healthcare.

Association between persons who are not disabled and healthcare access

The result from the table 4.7 between persons without disability and access to health care, the results suggested that there is positive correlation between persons without disability and access to healthcare and were found to be statistically significant. The results from the above table suggested that persons without disability had positive effect in accessing to healthcare services in Morogoro. The result implies that persons without disability in accessing healthcare face no barrier.

Association between persons having disability and the persons not having disability.

The result from the table 4.8 between persons without disability and persons with disability, the results suggested that there is weak and negative correlation between

persons without disability and persons with disability and were found to be statistically significant. The results from the above table suggested that there is no significant effect between persons without disability and persons with disabilities in accessing to healthcare services in Morogoro. The result implies that persons without disability can access healthcare easily as compared to that with disabilities.

Association between hearing disability healthcare access

The result from table 4.12 between hearing disability and access to health care, the results suggested that weak and negative correlation between hearing disability and healthcare access and was found to be statistically significant at 10% given that the Kendall's tau-b was -0.366 with the p-value of 0.050 less than 10% significant level. The results from the above table suggested that hearing disability had negative effect on accessing to healthcare services among individuals with hearing disability. The results implies that hearing disability limit the people to access healthcare service.

Association between visual disability and access to healthcare

There was a positive correlation between access to healthcare and visual disability which was statistically significant at 5%, given that the Kendall's tau-b 0.365 with p-value =0.043 less than 10%. The result suggested that visual disability had positive implication on healthcare access among individuals having visual disability in Morogoro. Implying that the more the number of people with visual disabilities the more the access to health care increases.

Association between physical disability and access to healthcare

There was a positive correlation between physical disability and access to healthcare of people in Morogoro. The association was statistically significant at 10%, given that the Kendall's tau-b 0.032 with p-value of 0.065 at 10% significant level. The results suggested that physical disability had positive implication on the access to healthcare services. The implication behind this is that the more the physical

5.5 Discussion on the analysis of the factors influencing access to healthcare in Morogoro.

Age and access to healthcare

Age was found to be statistically significant but negatively in influencing access to health care among individuals with disabilities and those without disabilities. An increase in the people's age specifically those with disabilities are less probability to decrease access to healthcare. This is more or less the same as to persons with no disabilities whereby increase in age of the individual reduces access to healthcare. This implies that with more aged person with disabilities is more likely to access healthcare services less compared to the one without disabilities. The results are similar to the study by Vergunst et al. (2017) on access to healthcare for persons with disabilities in rural South Africa, where the results found that age was statistically significant in influencing access to healthcare among persons with disabilities in Morogoro Municipality region.

Income and access to healthcare

The income was found to be statistically significant in influencing access to healthcare as indicated in empirical studies. An increase in income of individuals who are disabled had higher probability to decrease the access to healthcare of the peoples with disabilities. This implies that as income increases peoples with disabilities were less likely to access healthcare service.

Possibly this might be caused by peoples with disabilities not investing their income to improve their access to healthcare services. Whereby peoples with disabilities income may be used for other expenditures rather than spending in healthcare services. This study supports the results given by Wongkongdech and Laohasiriwong (2014) on movement disability basically on the situations and factors influencing access to health services in Thailand. They found that income was statistically significant to healthcare access to persons with movement disability.

Similarly to Adams et al. (2014) on the socio-demographic factors influencing poverty and financial health care access among disabled people in Flanders found that people with disability have lower income than people without a disability. The results proved that disabled people often experience difficulty with health care access among disabled people in Flanders.

Gender and access to healthcare.

The results from regression analysis indicate that sex of respondents is positively related to access to health care services and statistically significant. The implication behind this outcome is that for being male the probability of accessing healthcare is higher as compared to female respondents. Higher proportions of male people with disability avail access to health care because they may receive support from their family as compared to female people with disabilities. The sex of male displays a significant effect on the access to healthcare. On the study conducted by Adams et al. (2014) also found gender to be statistically significant in influencing poverty and financial access to health care whereby they proved a contrary relationship and found that the dummy of female respondents on the logistic regression analysis was found to be statistically significant to poverty and financial health care access.

Marital status and access to healthcare

The results from regression analysis indicate that the marital status of the respondents have negative relation to health care services access and was statistically significant. The implication behind this outcome is that for being married increases the probability of accessing healthcare is less as compared to unmarried respondents. Higher proportions of married respondents do not avail access to health care because they may not receive support from their family as compared to unmarried respondents. The number of married of the respondents displays a significant effect on the access to healthcare as compared to unmarried one. The marginal effect value shows that access to healthcare decreases with an increase in number of being

married by 34.77%. Chun et al. (2012) on the implications of socio-demographic factors and health examination rate for people with disabilities in Korea found that marital status might influence the examination rate. They found that family members are still the main caregivers when PWD need support, with the spouse and offspring's taking on this major responsibility. Therefore, marital status could be one of the decisive factors related to receiving medical services such as health examination.

Type of disability and access to healthcare

Visual disability was also found to be statistically significant in influencing access to healthcare as indicated in empirical studies. From the results presented that number of individuals having of visual difficulties of the people with disabilities was statistically significant in influencing healthcare access among people who are disabled living in Morogoro municipality but positively related to healthcare services access. An increase in number of the respondents with visual disability of people in Morogoro increases the probability of access to healthcare of the peoples who are disabled. The marginal effects of the number of visual disability indicate that access to healthcare increases with the increase in number of visual disability by 26.2%.

This implies that the number of visual disability increases the probability to access healthcare service. Cabieses, Pickett and Tunstall (2012) conducted a study on comparing socio-demographic factors associated with disability between immigrants and the Chilean-Born using logistic regression analysis found that there was lower prevalence of physical and visual disability with respect to access to healthcare. A contrary relationship was found in this study were the researcher found a strong positive relationship between access to health care and dummy of visual disability. Also Vergunst et al. (2017) also found that type of households with disabilities was found to be statistically significant to access to healthcare whereby type of households with disabled members were found to be statistically significant in influencing access to health care.

Hearing disability and access to healthcare

The numbers of individuals with hearing disabilities were found to be statistically significant to access healthcare at 5% significant level. The positive sign of the coefficients indicate that there is a positive correlation between hearing disability and access to healthcare. This means that an increase in people with hearing disabilities increases access to healthcare by 27.75%. These results are similar to those of (Alexa, Paul and Johannes, 2016) which found that deaf people are statistically significant in accessing health care, that is as the number of deaf people increases the access to health care also increases.

CHAPTER SIX

SUMMARY, CONCLUSION AND RECOMMENDATIONS

6.1 Summary of the study

The intention of the cross-sectional study was to analyse healthcare access among people with disabilities in Tanzania. The survey data was collected from 200 respondents from Morogoro. Descriptive statistical analysis, Probit regression analysis was used to answer the questions arising from three objectives. The objectives were (i) to determine the difference of healthcare access between people having disability and people not having disability (ii) To analyse the type of disability in regard to access to healthcare amongst disabled people in Morogoro and (iii) to analyse the factors influencing access to healthcare by disabled people in Morogoro.

Findings represented demographic characteristics of the respondents was presented using the descriptive statistics from 200 respondents. It was observed that the average age of Was 35.39 years while the standard deviation was 12.78967. The results also showed that an average of 78% among the respondents had attained primary education with a standard deviation of 0.415286.

According to table 4.1 above the mean number of disabled individuals being male were 7.45 members with a standard deviation of 0.436955. Marital status was another variable in which the average number was 72.55% with a standard deviation of 0.447635 which indicates number of unmarried respondents. The number of being unemployed indicate the mean average was 0.775 with a standard deviation of 0.41863. Income levels of individuals with disabilities were found to be averaged with a mean of in which the mean average was T.shs 45000 with standard deviation of T.shs 750000.

The results on the association between disabilities types and access to health care indicate that, on the association between hearing disability and healthcare access, the results suggested that weak and negative correlation between hearing disability and healthcare access and were found to be statistically significant at 10% given that the Kendall's tau-b was -0.366 with the p-value of 0.050 less than 10% significant level. On the association between healthcare access and visual difficulty there was a positive correlation between access to healthcare and visual disability which was statistically significant at 5%, given that the Kendall's tau-b 0.365 with p-value =0.043 less than 10%. The result suggested that visual disability had positive implication on healthcare access among people having visual disabilities in Morogoro. On the association between access to healthcare and physical disability the study indicated a positive correlation between physical disability and healthcare access of the people in Morogoro. The association was statistically significant at 10%, given that the Kendall's tau-b 0.032 with p-value of 0.065 at 10% significant level.

The results on the probit regression analysis indicate that access to health care is influenced by number of factors which were found to be statistically significant but negatively related to access to health care including income of the people with disabilities and marital status which were significant at 5% and 1% respectively. Also the variables which were found to be statistically significant and positively related were such as gender of the respondents and dummy of disability type which were found to be statistically significant at 1% and 5% respectively. The remaining factors were found to have no effect on the access to health care service were such as disability status, employment status, location, education of the individuals with disabilities and age.

6.2 Conclusion of the study

The purpose of the study was to analyse healthcare access among individual who are disabled in Tanzania specifically in Morogoro. The study was guided by three

objectives along which respondents were asked the prepared questions and the response was analyzed. The results of the study showed that there was inadequate accessibility of the healthcare services among people having disabilities in Morogoro, Tanzania.

For that case, the first objective aimed of difference in healthcare access between individuals having disability and people not having disability and the study found that the disability status shows that majority of the respondents were disabled as compared to those without disabilities. Also on the awareness of the individuals concerning the right of the people with disabilities to access healthcare services were found to be higher to those with little awareness on the right of people with disabilities followed by those with quite awareness and on the kinds of disability majority were found to be visually disabled as compared to physical and hearing disabilities.

The study findings from the second objective also indicated that there was a positive and significant relationship between hearing disabilities and visual disabilities to access health care in Morogoro, Tanzania with statistical significant level of 10% and 5% respectively.

On the third objective identifying factors influencing access to health care, The study findings established that income, marital status, gender, age and disability type were found to be statistically significant at 5%, 1%, 1% and 5% respectively. Generally, the findings of this literature could help the policy makers and further researchers to design some specific strategies to improve and furnish accessibility to health care services in Morogoro, Tanzania.

6.3 Policy implication

The main players such as the ministry ought to re-examine the building policies and regulations that exist in order to redesign the hospitals buildings that exist to make sure we have structures that are disability friendly so as to progress easy access to the

services. Therefore, the infrastructures are supposed to be designed universally to make easy accessibility to individuals who are disabled. Furthermore in order to address the physical facilities, the producers and the health ministry must make sure that medicinal tools at different facilities go through regular assessment to guarantee accessibility to individuals who are disabled. Thus, more effort must be made in purchasing equipments for instance chairs and beds which may be easy to access by individuals who are disabled despite their locality.

On the income of the respondents indicated that it was significant but negatively related to health care access, this is because individuals who are disabled have less probability to healthcare services access given the decreases in income of the individual disabilities. Adding strength the services in rehabilitation will have the same benefits in the populace, since they are also desired by individuals who have impairments which are of short term. The Improvement in healthcare services is expected save cost, reduction of future costs in healthcare; promote inclusive and improved economic productivity. In general, these changes are expected to help achieve the UHC and Sustainable Development Goals, through making sure that the whole population can reach healthcare services, so as to experience improved health, improved productivity, and low poverty.

On the significant variable dummy of visual disability indicate that access to healthcare was influenced by type of disability whereby people with visual disabilities were found to have positive statistical effect to healthcare access. Therefore the government and other stake holders should provide various mechanisms to access health care easily so that it could be easily for the individuals with visual disabilities to access health care. By doing so then the universal health coverage will be reached.

One the significant variable gender given the dummy of male individuals were significant to healthcare access, where the male were found to more likely accessing healthcare more than female. The government should therefore increase effort

towards providing priority opportunities to female disabled individuals in both rural and urban areas in Morogoro and areas outside Morogoro so that there shall be equal access to health care service access and achieve universal health coverage.

Marital status was found to be statistically significant towards the access to healthcare whereby the dummy of married individuals were found to be a significant factor influencing healthcare access. Then the government should synthesize on the provision of equal opportunities and education as well as proper infrastructure especially those hinders access to healthcare including location, transport costs so that to ensure equal access to all individuals with disabilities specifically considering the marital status of the individuals whether is married or unmarried.

6.4 Limitations of the study

The study was also not only to individuals with disabilities but also with the individuals without disability. The study based only on Morogoro municipality individuals with disabilities in Tanzania. Data collection was done in Morogoro Municipality, Tanzania. The study was also limited to access to information on individuals with disabilities specifically on the filling of questionnaires especially to individuals with visual disability and to those with physical disability were not easily accessible and it was also limited to data collection through interview where it was difficult to ask respondents with hearing disabilities.

6.5 Area for further studies

Since the researcher was unable to employ a sign language due to various constraints especially on individuals disabilities. Therefore the researcher managed to interview the respondents with disability interchangeably as to those with disability but mobile and to those with visual disabilities as well as to those with hearing disability.

Further studies should consider only the youth with disabilities so that to provide a clear healthcare access differences among adults who have disabilities and youth who are disabled if they face similar barrier or otherwise.

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APPENDICES

APPENDIX I

Dear respondent

I, **Rugabela Lilian G.** a student at Mzumbe University in Morogoro, Tanzania. I am conducting a research for academic purposes. The intention of the study is to analyse healthcare access among individuals who are disabled in Tanzania. You are kindly requested to provide answers to these questions as honestly and precisely as possible. Responses to these questions will be treated as confidential. Please do not write your name anywhere in this questionnaire. Please tick (✓) where appropriate or fill in the required information in the spaces provided.

SECTION I: Demographic Factors

1. How old are you (Your age bracket)?
2. What is your highest level of education?
 - (i) None attainment any level of schooling []
 - (ii) Primary level []
 - (iii) Secondary level []
 - (iv) Tertiary level []
3. Gender of head of household
 - (i) Male []
 - (ii) Female []
4. Your marital status
 - (i) Living with partner []
 - (ii) Divorced []
 - (iii) Separated []

5. What is your place of residence?

(i) Rural []

(ii) Urban town []

6. What is number of family member or your family size?

7. Do you live with any disability person in your family?

i. Yes []

ii. No []

SECTION II: Social-Economic Factors

1. What is your occupation?

(i) Farmer []

(ii) Runs small business []

(iii) Formal employment []

(iv) Any other, justify.....

2. How much do you earn monthly?

SECTION III: Access of Health Care

1. Are you aware of the right of every person with disability in Tanzania to access health services in public health facilities equally, no matter what type of disability?

(i) Not aware at all []

(ii) Yes, quite aware []

(iii) Yes, Little Aware []

(iv) Yes, Full Aware []

2. Have you tried to access any public health facilities?

(i) Yes []

(ii) No []

3. If yes, which type of service did you need? (Choose the most important one)
 - (i) Medical consultation from doctor (Medication) []
 - (ii) Specialized doctor (for example eye, ear, vision inspection) []
4. If yes, did you face any difficulties to access it?

Yes, some difficulties	[]
Yes, a lot of difficulties	[]
No difficulties	[]
5. If yes, please tick from below difficulties that made your access to health services in public health facilities.

Long distance	[]
Costs	[]
Discrimination from medical staff	[]
No sign language	[]
The needed medicines are not available	[]
Physical barriers in building	[]
Poor health service	[]
Lack of family support	[]
6. What kind of disability do you have?
 - i. Blind []
 - ii. Hearing []
 - iii. Physical []
 - iv. Other []
7. What is your disability status?
 - (i) Disabled []
 - (ii) Not disabled []

8. Do you utilize the health care services when you're ill?
- i. Yes []
 - ii. No []
9. How many times do you attend in a month whether you're ill or not?.....

10. How would you rate the attitude of service providers towards people living with disability?
- i. Poor []
 - ii. Average []
 - iii. Good []
11. What is the distance to access health care service?.....

12. Are you satisfied with the health care services rendered? Rate your satisfaction?
- (i) Poor []
 - (ii) Average []
 - (iii) Good []
13. What means of transport do you use when accessing health care services?
- (i) Walk []
 - (ii) Public means []
 - (iii) Others, specify.....
14. How much do you pay for transport to and from the services?

15. What type of barriers do you face during the process of obtaining the health care service?

- (i) Physical []
(ii) Communication []
(iii) Medical equipment []
(iv) Others, specified?

16. Please rate the response in regard to 18 potential access barriers to health care from “No Problem” (score 1), “Small Problem” (score 2), “Moderate Problem” (score 3), “Serious Problem” (score 4) or “Insurmountable Problem” (score 5).

S/N	Statement	No problem	Small problem	Moderate problem	Serious problem	Insurmountable problem
1	Lack of transport from home to facilities					
2	Inadequate drugs and equipments					
3	No services available					
4	Journey dangerous					
5	Couldn't afford transportation cost					
6	Standard of health facilities					
7	Physical access to facilities					
8	Don't afford the cost					
9	Not sick enough					
10	Negative attitude of health workers					
11	Previous blandly treated					
12	Tried but denied					
13	Because of faith					
14	Communication with health workers					
15	No facility accommodation					
16	Not knowing where to go					
17	Couldn't get time off work					
18	Don't have necessary documents					

17. What other challenges do you face when you want to access health care?

.....

Thank a lot for your cooperation

APPENDIX II

```
. probit Acc_Healthcare Age Location Male Married Employed Disabled Hearingdisability Visualdisability Income_01 primaryleveleducation secondaryeducat
> ion Highereducation, robust

Iteration 0:   log pseudolikelihood = -120.43034
Iteration 1:   log pseudolikelihood = -46.384519
Iteration 2:   log pseudolikelihood = -46.549891
Iteration 3:   log pseudolikelihood = -46.513544
Iteration 4:   log pseudolikelihood = -46.513486
Iteration 5:   log pseudolikelihood = -46.513486

Probit regression                               Number of obs   =           200
                                                Wald chi2(12)      =          103.81
                                                Prob > chi2        =          0.0000
Log pseudolikelihood = -46.513486                Pseudo R2          =          0.6138
```

	Coef.	Robust Std. Err.	z	P> z	[95% Conf. Interval]
Acc_Healthcare					
Age	-.0262021	.0136049	-1.93	0.054	-.0528672 .000463
Location	-.0228286	.0648271	-0.35	0.725	-.1498874 .1042303
Male	1.843674	.3574385	5.16	0.000	1.143107 2.54424
Married	-1.008615	.3330305	-3.03	0.002	-1.661343 -.355873
Employed	-.5965267	.3899324	-1.53	0.126	-1.36078 .1677269
Disabled	-.353001	.2825455	-1.25	0.212	-.90678 .200778
Hearingdisability	2.775767	1.189117	2.33	0.020	.4451407 5.106394
Visualdisability	2.862266	1.091083	2.62	0.009	.7237826 5.000749
Income_01	7.29e-06	2.06e-06	3.53	0.000	3.25e-06 .0000113
primaryleveleducation	.6518309	.4475873	1.46	0.145	-.2254241 1.529086
secondaryeducation	-.2156738	.5820702	-0.37	0.711	-1.356511 .9251628
Highereducation	.9904198	.595215	1.66	0.096	-.1761801 2.15702
_cons	-3.999626	1.556336	-2.57	0.010	-7.04999 -.9492629

```
.
end of do-file

. mfx

Marginal effects after probit
y = Pr(Acc_Healthcare) (predict)
= .82229875
```

variable	dy/dx	Std. Err.	z	P> z	[95% C.I.]	X
Age	-.00682	.00361	-1.89	0.059	-.013902 .000262	35.39
Location	-.005942	.01693	-0.35	0.726	-.039125 .027241	3.57309
Male*	.391806	.110686	3.53	0.000	.1748884 .808728	.745
Married*	-.3087399	.12424	-2.49	0.013	-.552246 -.065234	.275
Employed*	-.1771522	.13533	-1.31	0.191	-.442402 .088098	.225
Disabled*	-.0912173	.06947	-1.31	0.189	-.227383 .049948	.52
Hearin-y*	.7871336	.23025	3.42	0.001	.33986 1.23841	.66
Visual-y*	.4665709	.12403	3.76	0.000	.223472 .709669	.295
Incom-01	1.90e-06	.00000	3.67	0.000	8.8e-07 2.9e-06	264910
primar-n*	.1959441	.14434	1.36	0.175	-.086954 .478843	.78
second-n*	-.0613497	.18025	-0.34	0.734	-.414624 .291924	.025
Higher-n*	.1587991	.06099	2.60	0.009	.03926 .278338	.045

```
(*) dy/dx is for discrete change of dummy variable from 0 to 1

. do "C:\Users\QUEENT-1\AppData\Local\Temp\STD01000000.tmp"

. linktest

Iteration 0:   log likelihood = -120.43034
Iteration 1:   log likelihood = -46.289599
Iteration 2:   log likelihood = -46.195428
Iteration 3:   log likelihood = -46.195392
Iteration 4:   log likelihood = -46.195392

Probit regression                               Number of obs   =           200
                                                LR chi2(2)      =          148.47
                                                Prob > chi2     =          0.0000
Log likelihood = -46.195392                Pseudo R2       =          0.6164
```

Acc_Healthcare	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]
_hat	1.041991	.1507686	6.91	0.000	.7464899 1.337492
_hataq	-.0738085	.0908067	-0.81	0.416	-.2517864 .1041693
_cons	.0954356	.2020842	0.47	0.637	-.3006421 .4915133

```
.
end of do-file

. do "C:\Users\QUEENT-1\AppData\Local\Temp\STD01000000.tmp"

. estat gof

Probit model for Acc_Healthcare, goodness-of-fit test
      number of observations =          200
      number of covariate patterns =        200
      Pearson chi2(187) =       179.92
      Prob > chi2 =           0.6316

.
end of do-file

. do "C:\Users\QUEENT-1\AppData\Local\Temp\STD01000000.tmp"

. estat classification

Probit model for Acc_Healthcare
```

Classified	True		Total
	D	~D	
+	138	12	150
-	4	46	50
Total	142	58	200

```
Classified + if predicted Pr(D) >= .5
True D defined as Acc_Healthcare != 0
```

	Pr(+ D)	97.18%
Sensitivity	Pr(+ D)	97.18%
Specificity	Pr(- ~D)	79.31%
Positive predictive value	Pr(D +)	92.00%
Negative predictive value	Pr(~D -)	92.00%
False + rate for true ~D	Pr(+ ~D)	20.69%
False - rate for true D	Pr(- D)	2.82%
False + rate for classified +	Pr(~D +)	8.00%
False - rate for classified -	Pr(D -)	8.00%
Correctly classified		92.00%

```
.
end of do-file

.
```

```
. estat gof
```

Probit model for Acc_Barrrier, goodness-of-fit test

```

      number of observations =      200
number of covariate patterns =      200
      Pearson chi2(187) =    179.92
      Prob > chi2 =      0.6316

```

```
. estat classification
```

Probit model for Acc_Barrrier

Classified	True		Total
	D	~D	
+	138	12	150
-	4	46	50
Total	142	58	200

Classified + if predicted Pr(D) >= .5
True D defined as Acc_Barrrier != 0

Sensitivity	Pr(+ D)	97.18%
Specificity	Pr(- ~D)	79.31%
Positive predictive value	Pr(D +)	92.00%
Negative predictive value	Pr(~D -)	92.00%
False + rate for true ~D	Pr(+ ~D)	20.69%
False - rate for true D	Pr(- D)	2.82%
False + rate for classified +	Pr(~D +)	8.00%
False - rate for classified -	Pr(D -)	8.00%
Correctly classified		92.00%

```
.
```