UNIVERSITY OF EDUCATION, WINNEBA

ACCESS TO MOBILITY DEVICES BY ADULTS WITH MOBILITY IMPAIRMENTS IN THE WINNEBA MUNICIPALITY IN THE CENTRAL REGION OF GHANA

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A THESIS IN THE DEPARTMENT OF SPECIAL EDUCATION, FACULTY OF EDUCATIONAL STUDIES, SUBMITTED TO THE SCHOOL OF GRADUATE STUDIES, UNIVERSITY OF EDUCATION, WINNEBA IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR AWARD OF THE MASTER OF PHILOSOPHY (SPECIAL EDUCATION) DEGREE

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DECLARATION

Student's Declaration

I, Wise Lebene Gborti, declare that this thesis with the exception of quotations and references contained in published works, which have all been identified and duly acknowledged, is wholly my own original work and it has not been submitted, either in part or whole for another degree in this university or elsewhere.

Signature: .....

Date: .....

Supervisor's Declaration

I hereby declare that the preparation and presentation of this thesis was supervised in accordance with guidelines and supervision of the thesis laid down by the University of Education, Winneba.

Name of Supervisor: Dr. Anthony Kofi Mensah

Signature: .....

Date: .....

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DEDICATION

I wholeheartedly dedicate this work to the memory of my father, Courage Lebene Gborti, and two of my sisters, Ama and Etovo. They should have been alive to share in this joy.

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ABSTRACT

The purpose of this study was to explore access to mobility devices by adults with mobility impairments in the Winneba Municipality in the Central Region of Ghana. The study adopted Penchansky and Thomas's Theory of Access and Victor Vroom's Expectancy Theory as the theoretical frameworks for the study. The research design used was a case study. The population for the study was forty (40) adults with mobility impairments including twenty-five (25) males and fifteen (15) females. The sample size was ten (10) including six (6) males and four (4) females. The purposive and stratified sampling techniques were used to select the sample size. Face-to-face interviews were conducted as a means of eliciting responses from the participants, with the use of semi-structured interview guide. The findings from the study revealed that participants relied on donor support, family members and other charitable organizations as sources to access mobility services. Participants also confirmed that there were several benefits of accessing mobility devices including independent ambulation, daily living activities and social support services. Some of the barriers to accessing mobility services were financial constraints, donor scarcity, unavailability of mobility devices and lack of awareness about finding mobility devices. It is therefore suggested that measures need to be taken to improve access to mobility devices for adults who needs the services.

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

Access to mobility devices, including financial capacity to afford them, is remarkably higher among people with mobility impairments in developing countries. The access to mobility devices for adults with mobility impairments may be challenging. Mobility devices include products and related services that improve on the functioning of adults with disabilities. It can be instrumental for adults' development and health, as well as for their participation in various facets of life. These include mobility, self-care, household tasks, family relationships, education, and engagements in play and recreation. Access to mobility devices can enhance the quality for life of both adults with mobility impairments and families who have people with disabilities (World Health Organization [WHO], 2015).

The term "mobility device", also known as mobility aids or mobility assistive technology, is described as devices that are designed to assist people with mobility impairments, for aged to walk or move around or to do things that they could not do before their disability conveniently (Okoli, 2013). In addition, there are many types of mobility devices that are available to support people with mobility impairments to enable their move around on their own without assistance from others. Today, a wide range of mobility devices are available in the market to help individuals with disabilities. Some of the most common mobility devices include manual and electric wheelchairs mobility scooters, elbow crutches, walking frames, walkers or walking sticks, tricycles, canes, orthoses and prostheses (Alam, 2015).

Mobility devices help persons with disabilities to achieve personal mobility and access to these devices is a starting point for realizing equal opportunities, enjoying human rights and living in dignity (United Nations, 1993).

The United Nations Convention on the Rights of Persons with Disabilities (UNCRPD) outlined the responsibilities of nations to take effective measures to ensure that they provide their citizens with personal mobility for their needed independence with the effort to promote and ensure mobility devices availability and access (United Nation, 2006).

The United Nations Standard Rules on the Equalization of Opportunities for People with Disabilities (United Nations, 1993) as well as the World Health Assembly Resolution noted that "Disability, in addition to prevention, management and rehabilitation" (WHO, 2005, cited in WHO, 2011, p.5), mandated countries to promote access to appropriate mobility devices that facilitate their development including other areas that encourage their inclusion of those with disabilities in society.

The Community-Based Rehabilitation Guidelines such as the CBR guideline (W, 2010); Guidelines on the Provision of Manual Wheelchairs in less-Resourced settings (WHO, 2008), Prosthetics and Orthotics Project and Programme Guide (Landmine Survivors Network, 2006), and the Guidelines for Training Personnel Development in Prosthetics and Orthotics Services (WHO, 2005) all provided practical recommendations and support for countries in the area of assistive technology. When adults with mobility impairments are given opportunities to flourish as any other adults, they have the potential to lead fulfilling lives and to contribute to their social, cultural and economic vitality of their communities. However, surviving and thriving

can be especially difficult for adults with mobility impairments without access to these mobility devices.

Mobility impairment can be described as an impairment in mobility that restricts the ability of the individuals to move about in the natural environment in order to carry out activities essential to daily life (Rosenberg, Bombardier, Hoffman, & Belza, 2011). Mobility involves issues on walking, stair climbing, posture, balance, manipulation, transfers, and other locomotion tasks and it is therefore, important to quality of life (Fregly, Boninger & Reinkenmeyer, 2012). All too often, adults with mobility impairments are isolated and excluded from health, and social services, and may have limited opportunities to participate in family and community life. This often has impacted on their future employment opportunities and participation in civic life. One of the most essential requirements for adults with mobility impairments to flourish is their access to mobility devices (WHO, 2015). The WHO further reported that, for many adults with mobility impairments, a mobility device represents the difference between enjoying their human rights and being deprived of them. However, in many low-resourced countries, only 5 to 15 percent of those who require mobility devices have access to them.

Recognizing the relevance of access to mobility devices, the Convention on the Rights of Persons with Disabilities, has in their several articles mandated countries to take good measures to make mobility devices and other related services more affordable for their citizens (Wo, 2015). Very often, mobility devices have been a missing link in the chain of prerequisites that enable adults with mobility impairments to lead the kind of life where they can enjoy and exercise their rights. While national governments have primary responsibility to ensure that people with disabilities can

access mobility devices, the WHO observed that international cooperation in the area of provision of mobility devices can also be seen a critical.

To increase access to mobility devices, all related stakeholders need to maintain a high level of commitment to realizing the mandate of the Convention on the Rights of Persons with Disabilities – to develop national plans, policies and programmes for provision of mobility devices. Access to appropriate mobility devices can be a powerful tool to increase the independences of adults with mobility impairments to independence in their improvement in participation or social life. It can help adults with mobility impairments to become mobile (WHO, 2015). Matching the most appropriate mobility devices to the needs of adults with mobility impairments, is important for their daily mobility services. Mobility impairments frequently restrict participation in work, family, social, vocational, and leisure activities (Stogner, 2009). Furthermore, adults with mobility impairments often experience difficulties in adapting to the changing and progressive nature of mobility loss, frequently marked by exacerbation and remission (Cooper, Robertson, Lawrence, Heil, Albright, VanSickle, & et. al., 1996).

Living with mobility impairment is challenging, many studies have shown that the quality of life for people with mobility impairments is lower than the quality of life of people without the disability (Edwards, Patrick & Topolski, 2003; Hosain, Atkinson, Underwood, 2002). Also, mobility impairments challenge the affected person in diverse ways as a result of problems in mobility and stature. Fortunately, mobility device technologies help to overcome many challenges faced by people with mobility impairments (Bryen & DiCasimirro, 1997). People with mobility impairments, have the right to choose whatever mobility device that best suits their needs. For example,

someone may prefer to use a manual wheelchair rather than the power wheelchair because it enables the individual to maintain his or her upper body strength (Americans with Disabilities Act, 2014).

Global data on the needs for rehabilitation services, including mobility devices and estimates of unmet needs, are very limited (W, 2011). Studies done by the WHO (2005), have revealed that people requiring for example, orthoses or prosthesis and other related services are made up of 0.5% of the population in developing countries like Ghana, while the number of people with disabilities in developing countries who needed a wheelchair for example is approximately 1% of the population (ISPO, USAID & WHO, 2006). The benefits of mobility technology in Ghana in alignment with global goal of mobility devices; the utilization of mobility devices permits individuals to move freely and participate in meaningful occupation and social activities, and most mobility devices used in Ghana are provided by religious groups or non-governmental organizations (Shadel, 2014).

Studies carried out in countries like Malawi, Namibia, Zambia and Zimbabwe on the conditions of people with disabilities, showed a huge gap in the provision of assistive devices (Eide & Kamereri, 2009). Furthermore, these studies revealed that only 17 to 37% of people who needed assistive devices had access to them. Access to mobility devices is a key factor that helps to improve on quality for people with disabilities (WHO, 2016). The use of these devices gives opportunity to people with disabilities to take part in activities of their choice in the community in which they live. Independent mobility is regarded as a human right and signatory countries to the Convention on the Rights of Persons with Disabilities have been mandated to make conscious efforts to ensure their citizens have equitable access to affordable mobility

assistive products, to promote mobility and independence (Borg, Lindstrom, & Larsson, 2009).

As at now, absent or inadequate access to mobility devices have led to many people with disabilities being forced into a cycle of poverty and deprivation, thus minimizing their access to work and social facilities (Borg et al., 2009; WHO, 2008). This incidence of lack of access to mobility devices is in part due to unavailable collaborations among diverse stakeholders who require to work together to design, manufacture and deliver mobility devices (Kamaraj, Bray, Rispin, Kanlipati, Pearlman, & Borg, 2017).

A study by Shadel (2014), revealed that in Ghana, which is a developing nation in the sub-Saharan Africa with a population of 25 million people, common diagnoses resulting in longer term disability include motor vehicle injuries, spinal cord injuries, cerebral palsy, polio, amputation, and unknown injuries potentially resulting from farming occupation. Shadel found that environmental factors that militate against the use of wheeled mobility in Ghana include not only barriers in the rural lifestyle and terrain, but also the accessibility and safety of urban areas. Furthermore, when an individual suffers from mobility impairments, quality of life is affected in relation to the severity of the impairment. For instance, mild knee osteoarthritis can limit participation in preferred recreational or athletic activities without significantly impacting normal daily activities and productivity. In contrast, a major stroke can make it nearly impossible to walk or manipulate objects, which significantly reduces an individual's ability to be self-sufficient and equally function in society (Fregly et al., 2012).

Many individuals with mobility impairments in Ghana appear to face challenges in accessing comfortable mobility devices to assist them take full opportunity of their human rights, and to improve their inability to engage in the social life of their communities. The available modernized mobility devices are costly, with most people with mobility impairments unable to afford them. The above observation is in line with the WHO (2010) findings that many low-income and middle-income countries such as Ghana, only 5 to 15 percent of people who require assistive devices and technologies have access to them. Access to mobility devices can be an important resource for adults, but timely provision can mean the difference between maintaining and losing one's functional independence (Pressler & Ferraro, 2010).

1.2 Statement of the Problem

Mobility devices are designed to facilitate or enhance a user's personal mobility – this relates to their ability to change and maintain body position and walk and move from one place to another (WHO, 2001). Mobility devices may also have an impact on the prevention of falls, injuries, further impairments and premature death. Investment in provision of mobility devices can reduce health-care costs and economic vulnerability, and increase productivity and quality of life (SIAT, 2005). Mobility devices enable persons with disabilities to achieve personal mobility, and access to these devices is a precondition for achieving equal opportunities, enjoying human rights and living in dignity (United Nations, 1993).

The United Nations Convention on the Rights of Persons with Disabilities (CRPD) highlights the responsibility of States to take effective measures to ensure personal mobility with the greatest possible independence for persons with disabilities, and a

corresponding responsibility to promote and ensure availability and access to mobility aids, devices and assistive technologies (United Nations, 2006). Furthermore, the

United Nations Standard Rules on the Equalization of Opportunities for Persons with Disabilities (United Nations, 1993) and World Health Assembly (WHA58.23) 1948 resolution, "Disability, including prevention, management and rehabilitation" (WHO, 2005), also urge countries to facilitate access to appropriate assistive technology and to promote its development and other means that encourage the inclusion of people with disabilities in society.

Despite these efforts of stakeholders at the international, national, regional and local levels, access to mobility devices for people with disabilities are not being met (WHO, 2011). Records at the Winneba Government Hospital indicate that about 60% demand for mobility devices have not been met. (Information Department, Winneba Government Hospital, 2016). The question is what is the cause of these unmet demands? What is restricting access to mobility devices in the Winneba municipality?

1.3 Purpose of the Study

The purpose of the study was to find out how adults with mobility impairments get access to mobility devices in the Winneba Municipality in the Central Region of Ghana.

1.4 Objectives of the Study

The objectives of the study were to find out:

1. How adults with mobility impairment have access to mobility devices in the Winneba Municipality.
2. How mobility devices accessed benefit adults with mobility impairment.
3. What barriers affect access to mobility devices for adults with mobility impairment
4. Find out what measures should be taken to improve on access to mobility devices for adults with mobility impairment in the Municipality.

1.5 Research Questions

The following research questions were raised to guide the study.

1. How do adults with mobility impairment have access to mobility devices in the Winneba Municipality?
2. How do access to mobility devices benefit adults with mobility impairment?
3. What barriers do adults with mobility impairment face in accessing mobility devices?
4. What measures should be taken to improve on access to mobility devices for adults with mobility impairments in the Winneba Municipality?

1.6 Significance of the Study

The results of the study would help in revealing the how adults with mobility impairments have access to mobility devices in the Winneba municipality. This would enable adults with mobility impairments to have information about where to access mobility devices. The results of the study would also bring to light how adults with mobility impairments benefit from the mobility devices they access. This would also enable adults with mobility impairments to understand the importance of mobility devices for their personal development. The results of the study would again uncover barriers adults with mobility impairments face in having access to mobility devices. This would give the adults with mobility impairments the opportunity to speak out the barriers so they can be addressed. Finally, the results of the study would afford the adults with mobility impairments the opportunity to offer suggestions on the measures that should be taken to improve access to mobility devices in the Winneba Municipality. This would also help both participants of the study and the researcher who is a trained person in field to take the up the problem for redress.

1.7 Delimitation of the Study

The scope of the study covered only the Winneba Municipality in the Central Region of Ghana with the focus on access to mobility devices by adults with mobility impairments aged between 40 to 65 years. The study again was delimited to only adults with mobility impairments aged 40 to 65 years in Winneba Municipality.

1.8 Limitation of the Study

The scope and the sample size of the study significantly posed a limitation to the study, this was because the findings of the study could not be generalized to adults with mobility impairments in other municipalities across the country.

1.9 Organization of the Study

The study was organized into five chapters. Chapter one covered the introduction, background of the study, statement of the problem, objectives, research questions, significance of the study, delimitations, limitation, organization of the study and operational definition of terms. Chapter two dealt with literature review. Chapter three focused on the research design, population, sample size and sampling techniques, instrumentation, procedure for data collection, and data analysis. Chapter four presented the analysis and discussion of results of the study, while chapter five covered the summary of the research findings, conclusions and recommendations.

1.10 Operational Definition of Terms

Mobility devices: these are aids that enable adults with mobility impairment to walk and move around freely and be independent.

Mobility impairment: this includes physical body limitations that may necessitate the use of mobility device.

Adults: these are individuals aged 40-65 who use mobility devices.

Access: this refers to sources of getting mobility devices by adults with mobility impairments.

Barriers: factors that make access to mobility devices for adults inaccessible.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This chapter presents the literature reviewed for the study. The review first covered the theoretical frameworks followed by the review on the key themes raised in the research questions such as the following:

1. Theoretical Framework
2. Adults with mobility impairment have access to mobility devices
3. Benefits adults with mobility impairments
4. Barriers to access mobility devices
5. Improving access to mobility devices

2.1 Theoretical Framework

In this study, theoretical frameworks were necessary as a basis of guiding the discussion on access to mobility devices by adults with mobility impairments. The study is guided by two theoretical frameworks namely; the dimensions of access theory by Penchansky and Thomas and the Victor Vroom's expectancy theory.

Penchansky and Thomas' Dimensions of Access Theory

This study adopted the Penchansky and Thomas' Theory of Access as its theoretical framework. Penchansky and Thomas's theory of access is the theory which underscores that access influences consumers and systems in three ways: use of service, consumer satisfaction and system practice (Penchansky & Thomas, 1981). One important observation about this theory and the relevance it brings to the present study is that it provides a useful explanation that incorporate dimensions of access. The theory views access as the degree of fit between the consumer and the service:

noting that the better the fit, the better the access. The theory of access as propounded by Penchansky and Thomas is optimized by accounting for each of the following dimensions: accessibility; availability; acceptability; affordability; and adequacy or accommodation. Furthermore, the dimensions of access are independent but are interconnected and each is important to assess the outcome of access. Although, this theory is much more used in relation to access to healthcare, however, its relevance to this study is equally important in the sense that it highlights the core principles of accessing assistive technology services for persons with mobility impairments. Figure 1 shows the Penchansky and Thomas' theory.

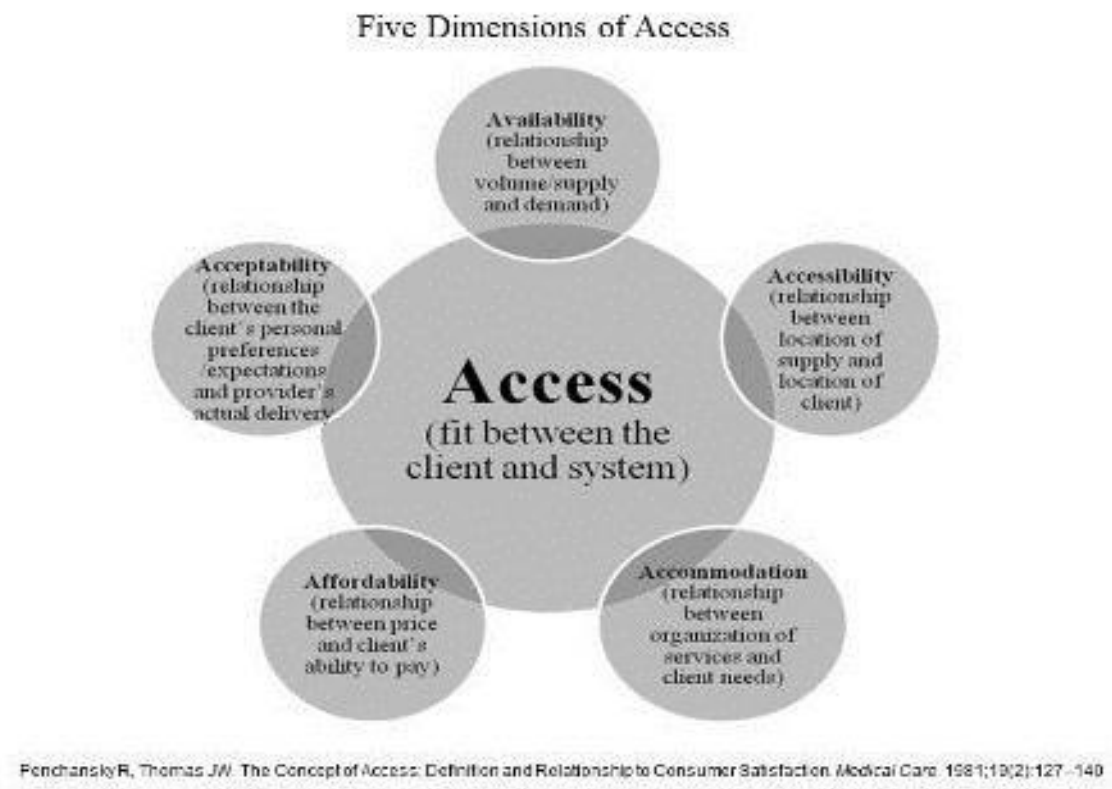


Figure 2.1: Penchansky and Thomas's Dimensions of Access Theory

Figure 2.1 shows the various influences with the Penchansky and Thomas's dimensions of access theory which are critical to the access of mobility devices by adults with mobility impairment in the Winneba Municipality.

As conceived by Penchansky and Thomas, access reflects the fit between characteristics and expectations of the providers of service and the client. They grouped these characteristics into five "As" of access care: affordability, availability, accessibility, accommodation, and acceptability. They indicate that affordability is determined by how the provider's charges relate to the client's ability to and willingness to pay for services. Availability measures the extent to which the provider has the requisite resources, such as personnel and technology, to meet the needs of the client. Accessibility in the opinions of Penchansky and Thomas refers to geographic accessibility, which is determined by how easily the client can physically reach the provider's location. In explaining accommodation, they note that accommodation reflects the extent to which the provider's operation is organized in ways that meet the constraint and preferences of the client. Of greatest concern about accommodation according Penchansky and Thomas, are period of operation and the client's ability to receive service without prior appointment. And finally, acceptability captures the extent to which the client is comfortable with the more immutable characteristics of the provider, and the vice versa. These characteristics as they note include the age, sex, social class, and ethnicity of the provider (and of the client), as well as the diagnoses and the type of coverage of client.

Victor Vroom's Expectancy Theory

Victor Vroom's theory, is also known as the expectancy theory of motivation was formulated in 1964 in the study of organizational behavior. The theory assumes that behavior results from conscious choices among alternatives whose purpose is to maximize pleasure and to minimize pain. Vroom (1964), proposes that an individual will decide to behave or to act in a certain way because they are motivated to select specific behavior due to what they expect the result of the selected behavior will be.

In essence, the motivation of the behavior selection is determined by the desirability of the outcome. The expectancy theory is about the mental processes regarding choice or choosing. Vroom states that effort, performance and motivation are all linked to the individual's motivation. He uses three variables in accounting for this thus; expectancy, instrumentality and valence. Vroom explains expectancy as the belief that increased effort will lead to increased performance, instrumentality he says is the belief that when an activity is performed well, a desired result will be achieved and valence is the importance one places on the desired outcome of the said activity. These three elements are important behind choosing a specific behavior over another.

2.2 Adults with Mobility Impairment have Access to Mobility Devices

Access to mobility devices can be sourced from a combination of government, nongovernment, including faith-based organizations, private sector and disabled people's organizations (Borg, Berman-Bieler, Khasnabis, Mitra, Myhill & Raja, 2015). A global survey by the United Nations International Children's Emergency Fund (n.d.) also found that governments, non-governmental organizations, disabled people's organizations and families are major sources of providers of assistive devices for people with disabilities.

Studies in South Africa, Namibia, Malawi, and Sudan found that the most common areas of access to assistive technology were government health services (37.8%) "Other" international humanitarian aid, development, charity and religious organizations (29.8%), and private health services (22.9%) (Visagie, Eide, Mannan, Schneider, Swartz, Mji, Munthali, et al., 2016). The research further revealed private services were more common as a source of assistive devices in urban areas and among females (p. 5). Another research in Bangladesh found that government facilities

provided about one percent of the assistive technologies needed in that country (Borg & Ostergren, 2015). The authors further found that, about one in five of the respondents who used wheelchairs had received them from other sources, which included community members, clubs and volunteer organizations (p. 303). Additionally, Borg and Ostergren noted that provision by non-governmental organizations (NGOs) in Bangladesh was much higher in a previous study in four African countries, where 2.3 to 9.3 percent of the assistive technologies were reportedly provided by NGOs.

The authors of the study noted that provision by non-governmental organizations (NGOs) in Bangladesh was much higher a previous study in four African countries, where 2.3 to 9.3 percent of the assistive technologies were reportedly provided by NGOs (Borg & Ostergren, 2015, p. 306). Furthermore, where government resources and capacity are limited, other stakeholders, including international organizations, such as the International Committee of the Red Cross (ICRC), may play a greater role in provision of mobility devices. Again, people with disabilities may also access mobility devices through a number of different facilities, including hospitals, rehabilitation facilities, mobile/outreach facilities and community based programmes, and also from private retailers and special education agencies. A variety of health personnel, especially rehabilitation personnel, are also involved in the provision of mobility devices, including therapists (e.g. occupational therapists and physiotherapists), medical staff (e.g. doctors and nurses), orthotists and prosthetists, and community workers (e.g. community-based rehabilitation workers and community health workers) (WHO, 2011). In the Republic of Ghana, for example, most mobility devices are provided by religious groups or nongovernmental organizations (Shadel, 2014).

Countries that were party to the Convention on the Rights of Persons with Disabilities (CRPD) are legally bound to fulfill the obligations outlined below regarding personal mobility and the provision of mobility devices. Even if a country has not signed the CRPD, it is helpful for the interpretation of other human rights conventions to which that country is a party. As well as action from participating nations, international cooperation is also required in support of national efforts to realize these:

2.2.1 General obligations

(a) "To undertake or promote research and development of, and to promote the availability and use of new technologies, including information and communications technologies, mobility aids, devices and assistive technologies, suitable for persons with disabilities, giving priority to technologies at an affordable cost;

(b) To provide accessible information to persons with disabilities about mobility aids, devices and assistive technologies, including new technologies, as well as other forms of assistance, support services and facilities;

2.2.2 Personal mobility

States Parties shall take effective measures to ensure personal mobility with the greatest possible independence for persons with disabilities, including by:

1. Facilitating the personal mobility of persons with disabilities in the manner and at the time of their choice, and at affordable cost;
2. Facilitating access by persons with disabilities to quality mobility aids, devices, assistive technologies and forms of live assistance and intermediaries, including by making them available at affordable cost;

3. Providing training in mobility skills to persons with disabilities and to specialist staff working with persons with disabilities;
4. Encouraging entities that produce mobility aids, devices and assistive technologies to take into account all aspects of mobility for persons with disabilities" (United Nations (2006), as cited in WHO, 2011, p. 10). Even though access to mobility devices can be accessed through different sources, it is relevant that those devices meet the client's needs, for instance, the devices accessed must be acceptable, adaptable and of quality to the user (Penchansky & Thomas, 1981).

2.3 Benefits Adults with Mobility Impairments

Mobility devices offer a number of benefits to those who use them. Mobility devices have the potential to save money and improve the quality of life for many elderly people with mobility impairments (Elliot, 1992). The United States Office of Technology Assessment (1985) noted that, for some individuals, assistive devices can delay or prevent institutionalization, resulting in enormous personal and financial savings. According to Elliot, the range of mobility devices available today can allow elderly individuals with mobility impairments to remain functionally independent in their communities, with fewer in-home services. Elliot further noted that, using assistive devices can enable a number of people with impairments to bathe independently and also, could enable people to dress themselves, and thereby alleviating the need for some help from others. Mobility assistive technology includes any device used to maintain or improve mobility (Aronson, 1997; Blake & Bodine, 2002).) Mobility assistive technology is also designed to improve functioning, enable successful living at home and in the community, and enhance independence (Scherer, 1996).

Studies revealed that mobility devices have been earmarked as an effective remedy for compensating weakness, restoring energy, and assisting to control unstable knee and ankle musculature (Souza, Kelleher, Cooper, Cooper, Iezzoni, & Collins, 2010). This device is also helpful for foot drop, a condition in which the person cannot clear his or her toes in the swing-through phase of mobility, may potentially affect normal gait (Sutliff, 2008).

They also provide ambulation by offering even distribution of weight on the hips that may be characteristic of a normal gait (Souza et al., 2010). These devices are again helpful when walking seems to be or mildly unstable, thereby reducing walking effort and the associated risk of falling when compared with ankle-foot orthoses and hip flexion assistive orthoses (Sutliff, 2008). Several types of canes available, such as single-legged canes, and quad canes which have a broad base of support and can maintain upright freedom so they do not become a tripling danger (Souza et al., 2010).

Also, they help redistribute weight from a weak of painful low extremity, improve stability by increasing the base of support, and assist to provide tactile information about the ground to improve balance (Kaye, Kang & LaPlante, 2000). Again, are helpful for persons who also need to use their arms for weight bearing and propulsion and not just for balance (Kaye et al., 2000). Crutches are again used to aid with ambulation by helping with balance, widening the base support, and decreasing weight bearing on as single lower limb (Souza et al., 2010). Crutches provide more balance for users can with canes during walking and are good for people who need bilateral support and showcase good upper-limb control (Sutliff, 2008). It is estimated that, one crutch can offer 80 percent weight-bearing support, and two crutches can

provide 100 percent weight-bearing support (Faruqui & Jaeblon, 2010). There are also various kinds of crutches which serve the needs of people with mobility impairments including auxiliary crutches, forearm crutches, and platform crutches.

Furthermore, mobility devices assist to improve stability in people with lower extremity weakness or poor balance and they facilitate improved mobility by increasing the user's base of support and supporting the user's weight (Faruqui & Jaeblon, 2010; Kaye et al., 2000; Liu, 2009). Walkers or wheeled walkers (rollators) are prescribed for persons with little limitations and provide increase stability as a result of walker's larger footprint compared with cane or crutches (Souza et al., 2010). Further, crutches can be bought with wheels, brakes, and modified handgrips to aid function as well as for safe use; to assist with tiredness; some walkers are made with seats for short rest periods in the course of ambulation (Sutliff, 2008).

Manual and power wheelchairs may be customized and may increase independence in social participation thereby reducing help (Hoenig, Taylor, & Sloan, 2003). The manual wheelchair as noted by Sutliff (2008) offer stable wheeled option that provides some level of physical activity. In addition, manual wheelchairs can serve as primary mobility for people having balance difficulties and frequent fall.

The wheelchair has become one of the most important and widely used assistive devices that help in rehabilitation of persons who experience mobility impairments (Best, 2014). Best (2014) again noted that "merely acquiring a wheelchair can facilitate social participation benefits for older adults" (p. 3).

Providing appropriate wheelchairs not only enhances mobility but begins a process of opening up a world of education, work and social life for people with mobility impairment and can again benefit the physical health and quality of the users by

helping in reducing common problems such as pressure sores, progression of deformities and improve respiration and digestion (WHO, 2010, P. 1).

A laboratory experiment carried out has shown that wheelchair-assistive technologies may reduce the impact on the shoulder joint and cardiovascular system, reduce energy expenditure and increase the distance and speed of moving (Ding, Souza, Cooper, Fitzgerald, Cooper, Kelleher et al, 2008; Kennedy, Lude, & Taylor, 2006; Simpson, LoPresti & Cooper, 2008; Tsai, Graves, & Lai, 2014).

Scooters as noted by Souza et al, (2010) are a popular mode of powered mobility among persons with multiple sclerosis. The authors further pointed out that the four-wheeler scooters typically offer stability than the three-wheeled scooters, but as a result, they are difficult to maneuver and heavier and thus more difficult to use. Scooters are also particularly useful for people can stand up, sit and walk a few steps without any support, but are greatly suffering with systematic or whole-body disabling medical conditions, for example arthritis, obesity, coronary or lung issues (Alam, 2015).

The prevalence of mobility impairment is said to be highest among the oldest population, with the possible risk of limited walking capacity increasing with advancing age (Sorensen et al., 2003; Ivanoff & Sonn, 2005; De Cream, Westendorp, Willems, Buskens, & Gussek-Loo, 2006). Existing reviews however, in the area of mobility assistive devices have place their focus mainly on outcomes aspects rather than activity and participation (Salminen, et al., 2009).

The ability to walk independently and complete activities is accomplished by many people without thought (Fomiatti, 2012). Radomski & Trombly (2008) also noted that mobility allows participation in many activities of daily living, fulfillment of

social desires and enablement of independence. The authors again wrote that taken part in social activities can lead to improvement in one's self-esteem and self-power, which would come as a result of engagement in activities which are of great importance. Mobility devices are designed for people who experience mobility difficulty in walking or moving around as a consequence of different range of health conditions and impairments, including amputation, arthritis, cerebral palsy, poliomyelitis, muscular dystrophy, spinal-cord injury, spinal bifida, stroke and visual impairments (WHO, 2011).

Research has indicated that mobility devices, when appropriate to the individuals who use them and their environment, have a huge importance on the level of independence and participation which individuals who use them are able to achieve (WHO, 2011). In addition, mobility devices have also been reported to reduce the need for formal support services, as well as reduce the time and the physical burden of care givers (Allen, Resnik, & Roy, 2006).

Studies have shown that mobility impairment can result in a broad variety of neurological deficits; and ambulatory impairment is the most basic form of resulting disability (Auger, Demers, Gelinas, Fuhrer, & DeRuyter, 2008). Mobility assistive technology may be useful means to enhance mobility when gait difficulties do not respond to therapeutic interventions (Fitzgerald et al., 2001).

According Souza (2011), provision of mobility assistive technology for people with mobility impairments has the potential to cure activity limitations and participation restrictions, can prevent or minimize fatigue by energy conservation, and also improve quality of life. Access to and uses of mobility devices also create opportunities for education and work, and again contribute greatly towards improve

health and quality of life of people with mobility impairments (Eide & Oderud, 2009; Shore, 2008). Mobility devices may also help in preventing falls, injuries and probably from causing further impairments and an early death among the users (WHO, 2011). It is recognized that use of mobility assistive technologies promotes functional independence, as they enable adults to remain active when facing impairment in everyday activities (Agree & Freedman, 2003; Cornman, Freeman & Agree, 2005).

Mobility device technology has improved over the last 20 years, with the current estimate available indicates that closely one third of all adults aged about 65 years or older make use of at least one device (Freeman, Agree, Martin & Cornman, 2006; Scheoni, Freeman, & Martin (2008); Spillman, 2005). A study in America also revealed that American adults 65 years and over used mobility devices such as canes and walkers more than ever and increasingly, using more than one device, depending on the setting (American Physical Therapy Association (APTA), 2015). In addition, the researchers equated the possible rise in use of the devices to be a greater disability rate, increased longevity, wider acceptance or "correction of unmet needs in previous decades.

Access to mobility devices again can become an important resource for adults with mobility impairments, but only timely adoption can mean the difference between maintaining and losing one's functional independence (Pressler, et al., 2010). Impairments and mobility however increases with age and mobility devices such as canes, crutches, and walkers can be used to increase the individual's base of support, improve balance, and increase activity and freedom (Bradley & Hernandez, 2011).

Furthermore, a person becoming disabled doesn't mean that the life of the individual will become stuck. There are many different types of mobility devices that are available on the market to help people with disability in need. The use of mobility devices in diverse ways seem to give a great promise to potentially improved mobility, functionality, including social interaction and also performance of daily activities for the elderly (Bavuma, Kyaddondo, Kiwuwa, & Kajja, 2017). Moreover, mobility devices are seen as having preventive potential because they might minimize greater dependence of the people with disabilities on family members, thereby maintaining sense of themselves as full adult persons (Long, 2012). Borg, Lindstrom & Larsson (2009) also noted that because free mobility is a human right, signatory countries to the Convention on the Rights of Persons with Disabilities are mandated to ensure their citizens have equal access to low-cost mobility assistive devices to promote free mobility.

The consequence of unavailability of mobility device provision as revealed may force many people with disabilities into the cycle of poverty and deprivation, curtailing their access to education, work and social facilities (Borg et al., 2009; World Health Organization, 2008). People with disabilities who cannot walk or move around can be provided with mobility devices such as wheelchairs, crutches, canes, scooters, and rollators so as to facilitate and thus enable active participation (Lofqvist, Nygren, Szesman, & Iwarson, 2005; Sorensen, Lendal, Schultz-Larsen & Uhrskov, 2003). Access to mobility devices is generally being seen as very important, and the United Nations (UN) as well as the World Health Organization (WHO) has recommended them as essential tools in creating equal opportunities for people with disabilities (Salminen, Brandt, Samuelsson, Toytari, & Malmivaara, 2009).

The benefits of mobility technology in Ghana in alignment with global of goal of mobility devices; the utilization of mobility devices permits individuals to move freely and participate in meaningful occupation and social activities (Shadel, 2014). Dessureault, Cote, Rocchette, Rouisseau-Harrison, Routhier & Thbault (2009) stated that people with mobility impairments with access to mobility devices have the better opportunity to engage in social activities. This is because being actively involved in social roles brings about personal identity, self-esteem, and helps in eliminating discrimination and segregation (WHO, 2010). Mobility devices are used by people with mobility impairments, that is those having difficulty walking, or who may be unable to walk, can be provided with wheelchairs or other mobility devices such canes, collators, and scooters so as to help promote and facilitate activity and participation (Brandt, 2005; Lofqvist et al., 2003). The WHO also pointed out that when people with disabilities are given the opportunity they can take up different social roles. These different roles may include those related to "relationships (husband, wife, sister, brother, friend), work (teacher, community worker, farmer), daily routine (cleaner, cook), recreation and sports (football player, card player) and community (volunteer, community leader)" (WHO, p. 3).

According to WHO (2011), mobility devices like wheelchairs are appropriate for people who experience mobility difficulties as a result of broad range of health conditions and impairments, including amputation, arthritis, cerebral palsy, poliomyelitis, muscular dystrophy, spinal-cord injury, spina bifida, and stroke, and are also relevant for older people who experience mobility difficulties. (p. 7).

Studies have also shown that assistive technologies, when appropriate to the user and the user's environment, have a significant impact on the level of independence and participation which people with disabilities are able to achieve (WHO, 2011).

Okoli (2013) however, suggested that there must be maximum benefit from the use of mobility devices and that the devices must be suitable and used appropriately. Okoli further suggested that professionals who prescribe mobility devices need to be knowledgeable about disabilities, mobility devices and should skilled in their use and applications. According to Okoli, mobility devices must meet the following requirements: they must (a) be appropriate to meet the individual's needs and their ability to endure environmental conditions, (b) be able to provide proper fit and postural support based on biomechanical principles, (c) be safe and durable; (d) be available and accessible, and (e) be maintained and sustained to meet the economic conditions.

Shadel (2014) observed that mobility device fit and use can vary depending on the need of a population and the define norms within that specific country. But, Bolding, Adler, Tipton-Burton, Verran, Lillie (2013) pointed out that the universal principles are still the same and that mobility devices are advanced technology and cautioned that specialist such as the rehabilitation personnel need to acquire some level of clinical training and theoretical knowledge before assessing and fitting individuals. Bolding et al., further admonished that professionals also must be able to have a certain degree of knowledge of the needs as well as the cultural beliefs of the population.

In the effort to promote access to personal mobility for people with disabilities to, the United Nations on its mandate outlined the following as a guide for the signatory countries, including by:

1. "Making sure that personal mobility for persons with disabilities is facilitated in the manner and the time of their choice, including at low cost;
2. Ensuring that people with disabilities get access to qualify mobility aids, devices, assistive technologies and other forms of live assistance and intermediaries, including by putting in place measure to make them accessible for affordable cost;
3. Offering training in mobility skills to persons with disabilities and to specialized persons working people with disabilities; and
4. Encouraging entities that are producing mobility aids, devices and assistive technologies to take into accounts all aspects of mobility for persons with disabilities" (UN, 2006) cited in WHO, 2011, p.11).

Research revealed that approximately 15% of the global population have some form of disability, and that 1% need mobility devices (e.g., a wheelchair) for increased mobility, but precise estimates for the less-resourced countries cannot be verified (WHO, 2011). Bradley and Hernandez (2011) stated that mobility devices can be prescribed to broaden the patient's base of support, improve balance and stability and can redistribute weight from the lower limbs to help alleviate possible joint pain or can be used to compensate for weakness or injury. Every assistive device use must be to improve independent mobility, reduce disability, delay functional decline and decrease the burden of care (Bateni & Maki, 2005; Faruqui & Jaeblon, 2010). Furthermore, Bateni and Maki observed that there may be some physiologic benefits

of mobility devices use including improved cardiorespiratory function, enhanced circulation, and prevention of osteoporosis.

Another disability status report in the United States in 2012 revealed that 37.6% million persons in the USA have some level of disability with above 20 million persons presenting with ambulatory disability (Erickson, Lee, & von Schrader, 2012). With the statistics given above, it is estimated that about 3.6 million wheelchair users and 11.6 million persons requiring the use of cane, crutches or walker for mobility help in the USA (Brault, 2010). For these reasons, it was suggested that the number of persons with mobility-related impairment that may require the use of assistive technology would substantially grow (Carver, Ivy, Plummer, & Eubank, 2015). While it is strongly believed that the benefits of using mobility devices are well realized among caregivers and consumers, health professionals and policy makers, there is, however, limited research evidence to justify the benefits and power of mobility device provision (Finlayson & Hammel, 2003; Mills, Holm & Schmeler, 2007). Functional mobility, according Carver et al. (2015), is a necessity for participating in activities of daily living, leisure pursuits and community participation. Moreover, it can also be seen as a key component of freedom for those with disabilities.

2.4 Barriers to Access Mobility devices

There are several mobility devices available for people with mobility impairments, but several obstacles hinder the adoption of these devices. These hindrances include consumer-related issues, such as the challenge of affording mobility devices; lack of awareness about how mobility devices can improve functioning and quality of life; and, reluctance of use mobility devices because of the stigma that comes with their use (Centre for Technology and Aging, 2010). There is a variation in mobility

assistive technology use in terms of socio-cultural factors including socio-economic status, Age, gender, ethno-cultural status, housing and geographical location (deKlerk, Huijsman & McDonnell, 1997; Kaye, Yearger & Reed, 2008). For example, the capacity to buy a mobility device is an important precondition of using one (Skinner & Weisner, 2007). Kaye et al. reported that, Montes and Halteman (2008) also found out that, there is often a great burden on families to purchase mobility devices directly from their pockets, with those without health insurance even face the greater burden.

Another study confirmed that those without an insurance coverage would be more likely than those with insurance coverage to report unmet needs for mobility assistive devices (Dusing, Skinner, & Mayer, 2004). Similarly, people from minority groups and low-income backgrounds are also more likely to miss out on quality mobility devices (Hunt, Boninger, Cooper, Zafonte, Fitzgerald, & Schmeler, 2004). Paying for mobility devices is one of the major barriers to accessing mobility devices for many people with mobility impairments as many of them are economically insecure (Johnson & Wilson, 2010). Harvey also argued that it is important to examine the socio-economic factors because families of people with disabilities are believed to be disproportionally financially constraint by poverty (Harvey, 2001)), while the use of mobility devices can also be impeded by the location the user lives.

Education is found to be linked with socioeconomic status and, therefore, people who are better educated are more likely to know about devices that are available and can feel confident about using them, particularly those that come with sophisticated technologies (Kaye et al., 2008). Education also plays a major role to income in determining mobility device usage. Kaye et al. concluded that disparities may be attributable to differences in awareness in relation to mobility devices and the

perceived benefits of using them as may be opposed to economic factors. Indeed, there is the need for individuals to have the appropriate level of health literacy and social capital added in order to access and use mobility devices (Ali, Fazil, Bywaters, Wallace, & Singh, 2001Evdence from the rehabilitation literature shows that users living in remote areas can encounter challenges in accessing mobility devices (Giltlow & Sanford, 2003). Giltlow and Sanford further observed that most allied health professionals find it very difficult to travel to places outside their jurisdiction for assistive technology education, thereby compromising the accessibility of devices (Savage, Yon, Campo, Wilson, Kahlon, & Sixsmith, 2009). However, little is known about how geographical location impacts unmet needs for mobility device for adults with mobility impairments.

Another factor that can influence the use of mobility devices could be gender (Bierman, Decker & Vandenende, 2004; Kaye et al., 2008; Statistics Canada, 2008). Some studies have also indicated that there is no difference in the use of mobility devices by gender (Hung, Wu, Wu, Leong & Lau, 2007), but others found out that there exists a gender determinant to whether a mobility device is used or abandoned (Beck, Thompson, Kosuwan & Prochnow, 2010). There are other views which point to the fact that, men have lower level of mobility device usage, particularly for low-tech devices (Kaye et al., 2008).

A gender consideration in accessing and using mobility devices is vital because it may influence beliefs about health and lifestyles which are linked with disability management (Payne, 2006). This may happen as gender may influence the ways in which symptoms are perceived, health seeking behavior, access to health services, adherence to treatment and long-term social and health consequences (WHO, 2008).

Kaye et al. (2008) found that another determinant to accessing and using mobility devices may include the cultural factor and that culture may present a disparity in accessing and using mobility devices because ethnocultural beliefs and probably the norms shape lifestyle behaviors and how disabilities are perceived (Ali et al., 2001). This may be due to some beliefs that disability in evil and a curse, stigma or a possible retribution from God, which can lead to people with disabilities reluctance or hidden away (Meekosha, 2004; Shultz & Sankaram, 2006). In some cultures, as stated by Gannoti, Handwerker, Groce, and Cruz (2001), people with disabilities can be over-protected to the extent that it can influence family expectations for the capabilities of those with impairments.

Access to mobility devices can also be obstructed due to generally low area of priority from national governments, and as a consequence, it is often not reflected in national legislation, policies or strategies (WHO, 2011). Furthermore, lack of financial capacity to tackle provision of mobility devices in some countries has impacted greatly on production of mobility devices and related services. Another research carried out again reported that most of the countries that took part in the survey rely on out-of-pocket transactions as a way of financing mobility devices, which has accounted for most persons with disabilities and families to purchasing even more than half of all assistive devices directly (Albrecht, Seelman, & Bury, 2003).

Provision of mobility assistive devices has been a task for many governments especial those in low-income countries because these devices have been in short supply and when they do exist, they are located far away from where people with disabilities live (WHO, 2011). It is estimated that 53% of countries have not taken the initiative of programs relating to the provision of assistive devices (South-North Centre for

Dialogue and Development, 2006). In some cases, the WHO found that, where non-governmental organizations engage in service delivery, they do not have the enough financial capacity to continue to develop perhaps a sustainable service delivery system to cover entire country and moreover too, their services turn to concentrate on a particular service delivery system and also, most of their services are sometimes geared towards specific impairments, age groups and/or geographical area.

Furthermore, where it happens that provision of mobility devices exist, they are more often centralized in major urban areas such the rehabilitation centers. Therefore, it becomes very difficult for people with disabilities and family members to afford the cost of travelling to centers where devices are available, in addition to the fact that public transport to these areas people with disabilities and families live is far and often not accessible (Dejong, Palsbo & Beattey, 2002; Penny, Zulianello, Dreise & Steenbeek, 2007).

It is documented that, in almost all countries, services relating to the provision of mobility devices are inadequate and of low quality and this can put people with disabilities at risk of secondary conditions, for instance if a particular device like prostheses are not fitted well can lead to device abandonment, or wheelchairs are provided without cushions, pressure sores can develop (WHO, 2011). Inadequate or a lack of well trained personnel accounts for a major setback to the provision of appropriate mobility devices services in many countries (Jensen, Graig, Mtalo, & Zelaya, 2004; Magnusson & Ramstrand, 2009; Pearlman, Cooper, Krizack, Lindsley, Wu, Reisinger, et al., 2008). Several countries have announced insufficient, unstable or unavailable supplies of rehabilitation professionals (Stanmore & Waterman, 2007), and most developing countries have also been cited for not having enough educational

programmes for rehabilitation professionals (WHO, 2011). The organization further revealed that many countries lack the production capacity with mobility devices being produced on a small scale or, in some cases, not available at all. The WHO further observed the trend to be a result of lack of limited access to the materials and the possible equipment needed to produce mobility devices. In addition, these factors as speculated by the WHO could also be as a result of market related factors which have the potential of limiting production, for example, "there may be a limited demand for mobility devices because people with disabilities in developing countries are often unaware of the existence and benefits of these devices and may have limited purchasing capacity" (p. 17).

Several physical environmental barriers also exist that pose danger to accessing of mobility devices. As indicated by Wearmouth & Willandt (2009), there are a number of challenges within a person's physical environment that can create barrier to limit individual access to mobility and use of mobility devices; an individual will not be able to use a deice such a wheelchair of good quality in an accessible house, or workplace Shadel (2014) also found that the environmental barriers to mobility accessibility are not limited to uneven terrain on unpaved roads but also include a lack of universal design concepts in regards to the layout of public and private buildings. A study on the living conditions of people with disabilities in Lesotho, for example showed that there was a wide gap of 25.4% between the expressed needs for mobility device services and awareness of these services (Kamareri & Eide, 2011). Social and cultural barriers may also pose enormous restrictions on the use of mobility devices. For instance, orthoses for lower-limb weakness often come ready fitted with a shore, which indicates they cannot be used in places of worship and homes in many parts of the world (Mulholland, et al., cited in WHO, 2011).

Mobility devices however, are not without disadvantages, as some of them have been associated with falls and even injury (Batemi & Maki, 2005; Faruqui & Jaeblon, 2010). A study by the American Physical Therapy Association, found that mobility device use did not appear to lower the incidence of falling, because mobility device has been significantly associated with many risk factors for falls (American Physical Therapy Association, 2015). This, the Association laments has serious implications for practitioners, especially for those who prescribe and train adults in the use of mobility devices.

Literature again has shown that inappropriate mobility devices for instance, may culminate to pressure ulcers, falls, accidents and device abandonment or underutilization (Greer, Brassure, & Wilt, 2012). In order for people with mobility impairments to benefit from the mobility devices provided, a comprehensive assessment is required to ensure that they meet the needs of the individuals within their homes, work and community environment (WHO, 2010).

2.5 Improving on Access to Mobility Devices

Removing challenges to mobility devices and related services should take into consideration the principles of acceptability, accessibility, affordability, availability, adaptability, and quality (WHO, 2011). Furthermore, national data on needs for mobility devices – both met and unmet are paramount for policies and programmers, for example, those needs that are met and unmet can be assessed through data on prevalence of disability, disability research and population and administrative data.

Another strategy that can be useful for increasing access to mobility devices is that questions on the related unmet needs for mobility device services can be included as a sub-set of national studies or representative surveys, like the one that was done on the

living conditions among people with activity limitations in six southern African countries (Eide & Oderud, 2009; Kamaleri & Eide, 2011). The WHO also suggested that the supply of mobility devices can be estimated from administrative data that involve mobility device provision. Again, measures such waiting time can be done through proxy for the extent to which the demand for mobility devices is being met (WHO, 2011). Estimating adults with mobility impairments needs for mobility devices and mapping available resources are a prerequisite for planning equitable services (WHO, 2015). Furthermore, in the absence of unavailable data, a percentage for example 3-5% of adults with mobility impairments in any population can be used as a baseline to determine the number of those who require mobility devices. It is also essential that the needs of adults with all types of mobility impairments are taken into consideration.

Provision of mobility assistive devices needs to be included into existing or new legislation, strategies and policies and the documents backing the provision of mobility devices need to address the issue of physical and cognitive accessibility to mobility devices and services, and also to public in-and outdoor environments and facilities (WHO, 2015). Lack of awareness of the services or the negative attitudes about disability that influence the person or the family seeking devices need to be tackled (WHO, 2011). In addition, indicators relating to the number of people demanding mobility device services and unable to receiving them or those that are receiving inadequate or inappropriate devices can provide useful information for planning. It may be unrealistic for people with disabilities living in rural areas to travel to specialized centers to have their devices repaired and this may lead to abandonment when they experience difficulties using them (WHO, 2010) and also local artisans, as noted by the Organization, can be trained to make small repairs to

assistive devices such as orthoses, prostheses and wheelchairs, example repair orthoses by replacing straps, screws or reverts.

The WHO (2015), also pointed out that decision-makers at all levels require the right training to effectively develop and implement all aspect of a system for the provision of mobility devices for adults with mobility impairments. The forming of partnerships among various stakeholders can play a role to support national efforts, coordination and collaboration, and helps prevent duplication (WHO, 2011). Aside forming partnership at the national level, collaboration can also take place at the international level or other entities that may have committed to the convention on the Rights of Persons with Disabilities and Article 32 on international cooperation (Borg, Larsson & Ostergren, 2011; Borg, Lindstrom & Larsson, 2011). It is important for platforms for information sharing, including research and good practices may be established (WHO, 2011). Ensuring effective implementation of policies relating to the provision of mobility devices require budgeting and allocation of necessary funding; where the needs for access to mobility devices for adults with mobility impairments needs to be identified and made available at an affordable price (WHO, 2015). In addition, the development of important mobility devices may be facilitated through many funding mechanisms including government funding, donor funding, national or private insurance schemes, public or private assistive technology funds, existing systems and infrastructure; for instance, healthcare, education, and community-based rehabilitation.

In order for the signatory countries to achieve the standard set for the provision of assistive technology (mobility devices), as stated in the Convention on the Rights of Persons with Disabilities, the following principles need to be considered:

1. “People with disabilities need to be actively involved in all stages of mobility device provision, having choice and control over the decisions that affects them, and factors such as sufficiency, reliability, simplicity safety and aesthetics should be taken into account to ensure devices and related services are acceptable to users;
2. mobility devices and related services are accessible to everyone with an identified need. Accessibility encompasses non-discrimination, physical accessibility and information accessibility. Provision of mobility devices should be equitable to avoid discrepancies between genders, age groups, impairment groups, socioeconomic groups and geographical regions;
3. mobility devices and related services are adapted and modified to ensure they are appropriate to the requirements of the individual’s disability, that is impairments, activity limitation restriction, related health conditions, environmental factors
4. (example, physical and social environment) and personal factors (example, gender, age, race, physical fitness, lifestyle and habits) (WHO, 2001);
5. mobility devices and related services must be affordable for people with disabilities and their families, particularly in the low-resourced settings. Affordability refers to the extent to which people can pay for the device and/or services associated with it;
6. all relevant resources (health-care facilities, programs and services, human resource, materials and products) required for the provision of mobility devices are available in sufficient quantity for the needs of the population and are provided as close as possible to people’s communities; and

7. all relevant (health-care facilities, programs and services, human resources, and material and products) are of an appropriate quality. Product quality can be measured through local, national and international technical standards or guidelines in terms of strength, durability, performance, safe, and comfort" (WHO, 2011, p. 19).

Mobility devices for people with mobility impairments can be provided by a broad range of stakeholders including the government, international agencies, nongovernmental organizations, (or charitable and faith-based organizations), and the private sector (WHO, 2011). In countries such as "Costa Rica, Cuba, Guyana, Indonesia, Mozambique, the Philippines and South Africa, provision of mobility devices is an important part of health care, and they are provided by the ministry of health through the national health care system" (p. 9).

The WHO (2008) mentioned that countries, such as Pakistan, the Syrian Arab Republic and Sri Lanka provide mobility devices primary through their Ministry of Defense for army personnel and in some cases, they extend such provision to civilian. The WHO further noted that when resources and capacity are limited, other stakeholders, including international organizations, for example the International Committee of the Red Cross (ICRC), may be involved to play a greater role in provision of mobility devices. Health personnel, more importantly rehabilitation personnel, are mostly involved in the provision of mobility devices, including therapists, such as occupational therapists and physiotherapists, medical staff such as doctors and nurses, orthotists and prosthetists, community workers (example, community-based rehabilitation workers and community health workers) (World Health Organization, 2011).

2.6 Summary of Literature Review and Notable Gaps in the Literature

The literature covered various important factors that account for access to mobility devices. The literature reviewed showed that governments, non-governmental organizations, religious groups, families of people with mobility impairments, are the major sources of access to mobility devices for people with mobility impairments. The literature again revealed that many benefits are derived from access to mobility devices, for example, activities of daily living and social participation activities.

Literature also, showed that many barriers account for access to mobility devices, this includes affordability, unavailability of mobility devices, and the stigma that comes with the use of mobility devices. It also revealed measures to improve on access to mobility devices for people with mobility impairments, for instance, having data that covers both met and unmet needs, appropriate funding and awareness creation about the benefits people with mobility impairment can derive from mobility device use, as well as creating the enabling environment for the mobility devices to be accessible. Finally, the literature showed that there was not enough research carried out on access to mobility devices within the Ghanaian context as a consequence, literature drawn upon was mainly from Foreign countries.

CHAPTER THREE

METHODOLOGY

3.0 Introduction

This chapter presents the methodology for the study. The areas covered are: the research design, population, the sample size, sampling techniques and instrumentation, procedure for data collection and data analysis.

3.1 Research Design

The research design adopted in this study was a case study design with a qualitative research approach. Qualitative data collection design includes "collecting data using forms with general emerging questions to permit the participants to generate responses" (Creswell, 2012, p. 202). In addition, the approach also involves "gathering word (text) or image (picture) and collecting information from a small number of individuals or sites" (p. 203). This type of research can again be described as the research that produces findings not arrived at by means of statistical procedures or other means of quantification (Strauss & Corbin, 2015). According to Creswell (2013), the use of a case study research will enable the researcher to explore, understand and present the participants" perspectives and get close to them in their natural environment. Therefore, in this study the case was the examination of access to mobility devices as in the case of adults with mobility impairments. Case studies are mostly dominated in the qualitative paradigm where facts collected are classified, explained and interpreted (Asumang, 2007).

Justification for Choosing a Case Study Design

The reason the researcher adopted a qualitative case study was because a case study is appropriate when trying to eliminate erroneous conclusions, so that one is left with the most compelling interpretation of the data (Golightly, 2006). Furthermore, when it is necessary to convey a holistic, dynamic and rich account of a scenario then a case study research is the best approach. The researcher again chose this design due to the nature of the research questions raised. It is also justified because a case study offers a positive, successful avenue for investigating complex settings with great potential for understanding of the phenomenon (Merriam, 1988).

3.2 Population

The study was conducted in the Winneba Municipality in the Central Region of Ghana. Forty adults (25 males and 15 females), between the ages of 40 years old and 65 years old, and who were mobility device users, formed the population from which a sample was selected as participants for the study. Avoke (2005) refers to the population as a focus of interest to the researcher. Avoke further explained that the population is the totality of all the participants of interest to the researcher; thus, all adults with mobility impairments in the Winneba Municipality of the Central Region of Ghana formed the population in this study.

3.3 Sample Size

The sample size is the sub-set of the population of the study. The sample size of the study was made up of 10 adults with mobility impairments aged between 40 years old and 65 years old, who were using mobility devices. These included 6 males and 4 females. The justification for selecting the 10 participants out of the total population of 40 for the study was to ensure that the researcher would be able to reach the

targeted sample quickly, because it takes a considerably long time to collect and analyzing qualitative data (Creswell, 2012). However, Patton (2015), argued that the quality of the sample affects the quality of the research generalizations. Nesbary (2000) also noted that the greater the sample size, the greater the probability the sample will reflect the general population. Patton, however, concluded that obtaining an unbiased sample is the main criterion when evaluating the adequacy of a sample.

3.4 Sampling Technique

The purposive sampling technique wa used to select the sample size for the study. This technique allowed the researcher to handpick the case included in the sample on the bases of the researcher's judgment of the typicality (Cohen, Manion & Morrison, 2007). The purposive sampling was used to select adults with mobility impairments in the Winneba Municipality. This, according to Sarantakos (2012) will enable researchers to purposively sample the subjects whom in their opinion are thought to be relevant to the research problem. In purposive sampling, as noted by Creswell (2012), the researcher intentionally selects individuals and sites to learn or understand the central phenomenon. According to this method, which belongs to the category of non-probability sampling techniques, sample participants were selected on the basis of their knowledge, relationships and expertise regarding the research topic (Friedman et al, 2007).

Before the participants were purposively sampled, the entire population was stratified, that is, the entire population of interest was partitioned into homogeneous groups (strata) that contained sample that had similar characteristics (Thompson, 2012), after which the simple random sampling technique was used to select the sample size for the study. For example, one group was made up of wheelchair users and the other

group crutches and tricycle users. The random technique was adopted in order to make sure that the entire population had the same opportunity of been selected, thus eliminating bias (Gravetter & Forzano, 2011).

3.4 Instrumentation

While quantitative researchers chose precise procedure for their data collection, the mandate of the case study researcher may be more rigorous and complex. In a case study type of research, the researcher is shown to be the primary measuring instrument, and what this suggests is that he or she carries out data collection and becomes individually involved in the phenomenon being researched..."few of the procedures are standardized or can be specified in advance of data collection" (Gall, Borg & Gall, 2013, p. 290).

Interviews

This study adopted a semi-structured interview guide for its data collection. The interview as a method of data collection allowed an open-ended exploration of the topics in the research as well as stimulates responses that would be understood in the unique words the respondents (Gall, Borg & Gall, 2013). The semi-structured nature of the interviews permitted participants to freely express themselves and enabled the researcher to ask questions that would not elicit yes or no answer.

Cobbold (2008) cited Kidder (1991) observed that semi-structured interview techniques are used in an effort to obtain a more intensive understanding of perceptions, attitudes, and motivation. Open-ended interview permits the individual open-ended response to questions that are fairly specific (Macmillan & Schumacher, 2010). Avoke (2005) observed that though semi-structured interviews may have predetermined questions, however, they can be modified based upon the interviewer's

perception of what seems most appropriate and inappropriate questions can be omitted. Whereas questionnaires are targeted to the perceived educated group, interview is more appropriate method of data collection than the questionnaire, because the researcher has enormous opportunity to translate or interpret the questions in any language that can readily be understood by the respondents (Ilogu, 2005).

A face-to-face interview was conducted to elicit responses from the participants. According to Creswell (2012), face-to-face interview occurs when the researcher decides to ask questions and to record answers from only one participant in the study at a time. Notwithstanding the costly approach to conducting individual interviews, they give much privacy to the respondent to freely express him or herself as may not be so with the focus group interviews. Interviews were audio-taped using a voice recorder after getting the approval from the interviewees. Also, notes were written down whenever necessary and the interview records were transcribed verbatim.

3.5 Procedure for Data Collection

Gaining Entry

According to Creswell (2012), the site where research takes place and gaining permission before entering a site is very paramount in research. An introductory letter from the Department of Special Education, Winneba was sent to all participants for permission to carry out the research. The date, time and the meeting place for conducting the interviews were communicated appropriately to the participants. The method used in eliciting responses from the respondents included semi-structured interview guide covering the items couched out of the raised research questions. Recording device was clearly explained to avoid any ambiguity. This, according to

Creswell, will permit negotiating approval with the respondents at the site which can facilitate collection of qualitative data.

Concerns over Reflexivity and Reactivity

In the first week at the participants' homes, the researcher realized there was some unease among the participants about my presence in their homes. The researcher was determined that my presence in the participant's homes should not discomfort them.

To reassure the participants of their security, the research after each recording of the interviews further played back the audio tape recordings to the participants and also the notes that were taken from the interviews were read back to the participants after the interviews were completed. This was vital in order not to compromise the method of ethical issues involved as an interviewer (Robson, 2002).

The Field Work Reflection

This aspect is a reflection on the researcher's field-work encounters in Winneba, during the course of the investigation into access to mobility devices for adults with mobility impairments in the Winneba Municipality. The primary method of eliciting responses from the participants was done through the use of interviews. Even though enough preparation had gone into the study, the researcher later realized further difficulties to the study. Some of the difficulties which were not readily anticipated are as follow:

- even though access to the participants was not that problematic, however the scheduled time for meeting with them was difficult. Some were even not ready to grant me audience any time the researcher called on them for the interview to be carried out.

- there was also difficulty moving from one participant to another since the weather at the time was very hot.

Participants' Inclusion Criteria

The study was evaluated and shot-listed based on inclusion criteria, which consisted of:

(a) study participants or population with adults with mobility impairments;

(b) aged between 40 to 65;

(c) reporting on access to mobility devices and;

(d) are residence in Winneba Municipality.

Confidentiality

Confidentiality was ensured by not sharing participant's personal information with other participants or any other individual. Participants in the progress of the study were re-assured that their involvement in the study and the information shared during the face-to-face interviews would not in any way affect their social life and family. To further ensure the confidentiality of the participants, pseudonyms were used to identify quotes.

Trustworthiness

The trustworthiness of this study is enhanced by including participants‟ differing viewpoints, giving more credibility to the findings. The trustworthiness is again enhanced by the exact description of the procedure by motivated participants and by the important quotations from the interviews (Weerasinghe, Fonseka, Dharmarantne & Jayatilake, 2015). Lincoln and Guba (1985) posited that trustworthiness of a research is important to evaluating its worth because it is necessary to estimate the accuracy of qualitative study.

Period of Data Collection

The interview was conducted between two weeks in March, 2018. The interviews of participants took place between 3rd and 5th of March, 2018 and between 10th and 12th of March, 2018. An audio-tape recorder was used to record the interviews in order to maintain the original data. The audio recording provides a complete verbal record, it can be studied much more thoroughly, and it speeds up the interview process (Gall, Borg & Gall, 2013). The time arranged for an interview was approximately 45 minutes for every participant. The data collection period was followed to satisfy the participants‟ time schedules.

3.6 Data Analysis

Data collected were analyzed using the qualitative thematic content analysis for the interviews (Weeransinghe et al., 2015). Braxter (1994) also explained that thematic analysis is a complex method and it is based on a holistic analysis. The study followed the method of analysis of semi-structured interview transcripts (documents with interview results was written down in thematic form) as captured by Burnard (1991).

To begin with, the transcripts were read several times and notes were taken while reading to gain insight into the thoughts and life of the participants. Following careful scrutiny, categories of codes with similar content was sorted into another list of categories and the list of categories was then surveyed and grouped together to reduce the numbers (Weeransinghe et al., 2015). Transcription as described in Creswell (2012) is the process of converting audiotape recordings into text or field notes into text data. Creswell (2012), also described the process of coding as segmenting and labelling text to form descriptions and broad themes in the data. This according to the

author allows the researcher to make sense out of text data, divide it into text or image segments, label the segment, examine codes and collate these codes into themes.

3.7 Ethical Considerations

This current study was subjected to certain ethical issues. As it was stated earlier, all participants reported their verbal consent regarding their participation in the research (McMillan & Schumacher, 2010). At the same time, selected participants were asked to feel free to withdraw from the research if they felt uncomfortable. The aim of asking sampled participants to feel free to withdraw was to reassure participants that their inclusion in the research was voluntary and also to protect their rights (Kimmel, 2007).

access to mobility impairment devices since both males and females have been victims‟ of mobility impairment in one way or the other.

Table 4.1: Demographic data of respondents in relation to their Ages

Range of Age(s)	Frequency	Percentage
40 – 49 years	3	30%
50 – 59 years	4	40%
60 – 65 years	3	30%
Total	**10**	**100%**

Source: Field data collected (2018)

Table 4.1 above shows the ages of respondents for the study. Three (3) representing 30% are between the ages of 40 and 49 years. Another four (4) representing 40% are between the ages of 50 and 59 years whiles the remaining three (3) representing 30% fell within the age of 60 and 65 years. The data suggest that 70% of the study participants are between the ages 50 and 65 years. This conforms the assertion that prevalence of mobility impairment is said to be highest among the oldest population, with the possible risk of limited walking capacity increasing with advancing age (Sorensen, Lendal, Schultz, & Uhrskov, 2003; Dahlin-Ivanoff & Sonn, 2005; De Cream, Westendorp, Willems, Buskens & Gussek-Loo, 2006).

Table 4.2: Marital status of respondents

Marital status	No. of Respondents	Percentage (%)
Single	1	10
Married	2	20
Divorced	4	40
Separated	2	20
Widowed	1	10
Total	**10**	**100**

Source: Field data collected (2018)

Table 4.2 above shows the marital status of respondents for the study. One (1) representing 10% is single; two (2) representing 20% are married whiles four (4) representing 40% are divorced. Another One (1) representing 10% is widowed and two (2) representing 20% are separated.

Table 4.3: Academic collection of respondents

Academic status	Frequency	Percentage
Primary	1	10%
Junior High School	2	20%
Senior High School or	3	30%
University	4	40%
Total	**10**	**100%**

Source: Field data collected (2018)

Table 4.3 above presents the educational status of the respondents for this study. It was observed that one (1) representing 10% had primary education, two (2) representing 20% had obtained up to Junior High School education whiles three (3) had representing 40% had reached senior high school level. The data obviously indicate that a greater number of the respondents four (4) representing 40% are university graduate. The academic qualifications of some of the study respondents are very commendable. Mobility impairment or disability does not mean intellectual disability; people who are mobile impaired can also attain their educational and academic aspirations.

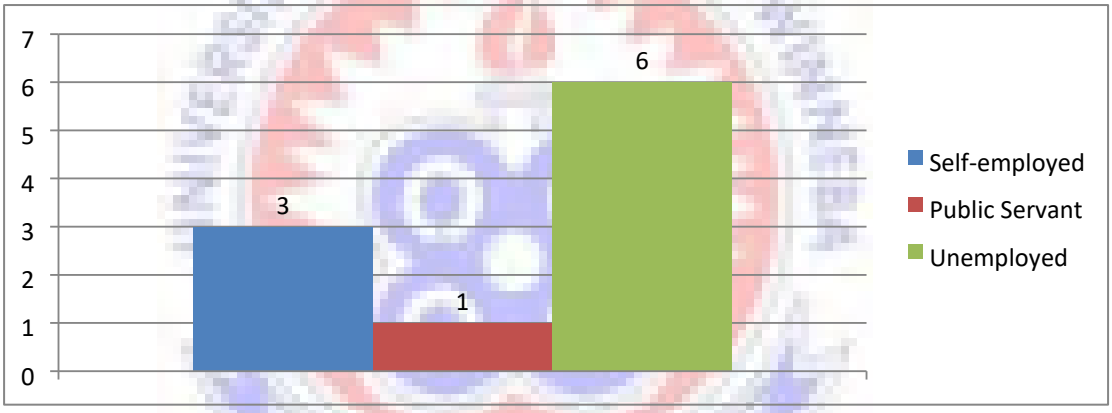
Figure 4.2 above indicates the employment status of respondents three (3) representing 30% are self-employed one (1) representing 10% is a public servant whiles majority of them six (6) representing 60% are unemployed. There is a general perception of discrimination on the job market against persons with disability. The above data seems to confirm this perception because 60% are unemployed.

Table 4.4: Type of mobility device used by respondents

Type of mobility device used	Frequency	Percentage
Wheelchair	5	50%
Crutches	4	40%
Cane/walking stick	0	0%
Walkers/walking frame	0	0%
Tricycle	1	10%
Scooters	0	0%
Orthoses/ prostheses	0	0%
Total	**10**	**100%**

Source: Field data collected (2018)

Figure 4.2: Demographic data of respondents in relations to employment



Source: Field data collected (May 2017)

Table 4.4 illustrates the type of devices used among the participants. Five (5) of the participants representing 50% use wheelchairs, four (4) representing 40% also use crutches whilst, one (1) of the participants representing 10% use tricycle. None of the participants use cane/walking stick, walkers/walking frame, scooters, orthoses or prostheses or other mobility device. The data clearly shows that majority of the study participants use wheelchair. The finding supports Best (2014) who found that wheelchair has become one of the most important and widely used assistive devices that helps in rehabilitation of persons who experience mobility impairments.

Table 4.5: Causes of mobility impairments among participants

Cause of mobility impairment	Frequency	Percentage
Motor accident	5	50%
Occupational accident	2	20%
Congenital disability	2	20%
Diabetes Mellitus	1	10%
Other	0	0%
Total	**10**	**100%**

Source: Field data collected (2018)

Table 4.5 represents the conditions responsible for the mobility impairments among the participants, five (5) of the participants representing 50% had their impairments through motor accidents, two (2) representing 20% by congenital disability, two (2) representing 20% also by occupational accidents and one (1) representing 10% through diabetes mellitus. None of them suffered mobility impairments through other means. The data suggest that half of the respondents (50%) had their impairments through motor accidents. This finding is not different from that of Assum (1997) and Street et al., (1999) who opined that motor accident injuries are leading causes of morbidity, mortality and mobility impairments in developed and developing countries

Results

4.2 Theme One

Adults with Mobility Impairment have Access to Mobility Devices

To answer this research question, the interview data collected were used.

Donor Support

> *"My device was given to me by some white people who visited me sometimes ago and is the device I have been using since then"* (Verbatim expression by a participant).

> *"I received my device from donors in Apam, because somebody directed me to go, and when I went there they gave me this device"* (Verbatim expression by a participant).

Church Support

> *"My church donated to me this wheelchair when I asked for help from them because there was no government sector to access the device"* (Verbatim expression by a participation).

Family Support

> *"My brother in law bought my device for me"* (Verbatim expression by a participant).

> *"The wheelchair was given to me by my cousin"* (Verbatim expression by a).

> *"It was my daughter who bought the device for me"* (Verbatim expression by a participant).

From the views expressed above, it revealed that the entire participants got their devices through donor support, church support, and family supports. More so, most of the participants interviewed showed their frustrations because they had to wait for a very long time before receiving their devices. Furthermore, most indicate that they got their devices from churches they attended; whiles some received theirs from family members and non-governmental organizations. In addition, the comments also revealed that the participants were able to have access to devices because they were

informed by colleagues who had knowledge about places where devices were being distributed. Even though, other ministries in some countries take responsibility for the provision of mobility devices through the Ministry of Social Welfare in Eritrea, Ethiopia, India and Vietnam, for their citizens, however, the responses revealed that the trends are not the same here in the Winneba Municipality.

This was because the entire participant who took part in the interviews narrated that each of them either got their mobility devices from donor support, charity or through the benevolence of family members. The findings of the study also confirmed a study done by Shadel (2014), which found out that most mobility devices utilized in Ghana are provided by missions or non-governmental organizations. The phenomenon whereby provision of mobility devices are solely being undertaken by missions or other non-organizations as this study revealed is at variance to Article 20 of the Convention on the Rights of Persons with Disabilities, which states that States Parties shall take effective measures to ensure personal mobility with the greatest possible independence for persons with disability including by:

(a) facilitating the personal mobility of persons with disabilities in the manner and at the same time of their choice, and at affordable cost;

(b) facilitating access by persons with disabilities to quality mobility aids, devices, assistive technologies and forms of live assistance and intermediaries, including by making them available at affordable cost;

(c) encouraging entities that produce mobility aids, devices and assistive technologies to take into account all aspects of mobility for persons with disabilities (United Nations, 2006, as cited in World Health Organization, 2011, p. 11).

The participants were also interviewed on whether the devices accessed met their expectations in relation to acceptability, adaptability and quality. These comments were therefore made:

> *"First, I was not sure the device would meet my desire but when it was given to me, I liked it because it was good and felt comfortable in it (Verbatim expression by a participant).*
>
> *"My device is of quality and I am okay using it. I was measured before it was provided. It can be adjusted up and down depending on the height I want it" (*Verbatim expression by a participant). *"Even though my device was not brand new, yet it is good and strong. I have been using it for almost a year and half now without changing any bolts on it" (*Verbatim expression by a participant).

As stated earlier, the interviews were to find out from the participants whether the devices they accessed and were using met their expectations. One of the participants narrated that she was not at first, too sure if the device provided could meet her desire. She however realized that the device was good for her comfort. Another participant also revealed that his device was of quality. The participant again mentioned that he was measured before the device was provided for him. Also, it Again, another participant noted that even though her device was not brand new before it was provided, notwithstanding her device was good and strong. She went further that the device had been in use for a year and half, without her changing even a bolt on it. The Findings is consistent with Penchansky and Thomas‟s concept of access which indicates a service when accessed must be seen to offer adaptability, acceptability and quality. The dimensions of access were at play as adults with mobility impairments had access to mobility devices which enabled their usage of the devices.

Summary of findings on research question 1

The finding indicates that adults with mobility impairments sourced their devices from donors, church and through family supports. It was also found that the mobility devices accessed met the expectations of the beneficiaries with some of the participants indicating that they were comfortable using their devices. Some also believed that their devices were of quality and good for them to use.

4.3 Theme Two

Benefits Adults with Mobility Impairments

To answer his research question, the interview data collected were used.

Independent Mobility

There were evidences of participants‟ ability to move around in their environments with their mobility devices without having to be assisted by family members. It was gathered from the interviews that participants, before accessing their devices were dependent on family members for movement. Some of the comments from the included these:

> *I am able to move myself around with the help of my crutches without having to rely on my daughter again to help me move* (Verbatim expression by a participant).

Again, another participant who was a woman and uses a wheelchair due to occupational accident expressed her profound gratitude for having a mobility device.

She commented this way:

> *"The device has brought some relieve for me because I am able to ride myself from my room to outside and around the environment without depending on anyone for help"* (Verbatim expression by a participant).

From the results there were references to independent mobility as one the most important benefits participants were able to attain because of access to mobility devices. The ability to move about without been impeded through any means was viewed by the participants as the major starting point in their lives towards realizing their potentials. There were occasions where participants had to crawl on the floor and to be carried to be able to enjoy certain rights. However, access to the mobility devices was the necessary platform for the participants to be included in the society. Mobility devices have been reported to reduce the need for formal support services, as well as reduce the time and the physical burden of care givers (Allen, et al., 2006).

Balance

On the issue of achieving balance in movement, one of the participants who used crutches commented that:

> *"First, when I didn't have the device I always feel in my legs some level of imbalance which made standing up and to sit down more difficult. But using the crutches has brought down that imbalance as I can now feel a bit more balance compared to what I used to experience" (*Verbatim expression by a participant*).*

Another participant who also used crutches also confirm that his device provides him with stability and balance to enable him walk and move swiftly without falling down.

He commented:

> *"My device provides balance for me because I can stand on it for support when having a conversation with someone. It supports me for say 10 minutes or more if I want to stand*" (Verbatim expression by a participant).

The extent of reference to balance in movement as stated in the comments by the participants were in line and linked with the individual's base improved balance discourse on mobility impairment. These comments from the participants are of

great importance them as they reflect the daily difficulties they had to overcome in mobility. This goes to confirm studies by Kaye et al (2009), Faruqui and Jaeblon (2010) and Liu (2009) which found that mobility devices improve stability in people with lower extremity weakness or poor balance and they facilitate improved mobility by increasing the user's base of support and supporting the user's weight.

Physical Activity

Another area the participants talked about was their ability to engage in physical activities using their devices. They view exercising as a good activity to help strengthen their bodies. These comments were shared:

> *"I used my device to go around in the morning and evening for exercise because I want to keep myself feet"* (Verbatim expression by a participant).
>
> *"Aside the other things that my device helps me to do, it also gives me the opportunity to exercise my body because my doctor advises me to do it"* (Verbatim expression by a participant)
>
> *"Exercise is good for my body because it can help prevent fatness in me"* (Verbatim expression by a participant).

From the comments above, the ability to engage in physical activities were also seen as one of the benefits of owning a mobility device for the participants. The participants noted that exercising their bodies were of great importance to them because it helps minimize obesity in them. A study carried out showed that individuals with mobility impairments who have access to mobility devices and use them are likely to benefit from improved health and quality of life (Eide & Oderud, 2009).

Activities of Daily Living

On daily living activities, participants‟ answers were examined from four different perspectives: these include washing clothes, cooking and washing plates, bathing, and dressing up. The following were the comments from the various participants on what they are able to do as far as the daily living skills were concerned:

> *"Sometimes, I have to wash my cloths seating on my device because not all the time that somebody can help me"* (Verbatim expression by a participant).
>
> *"Washing my own cloths? I don't think it is something difficult so I do it most of the times ever since I was provided with the device"* (Verbatim expression by a participant).
>
> *"Washing was something I enjoy doing even before I became disabled, so I don't*
>
> *up was very difficult at first but for now I can do all that myself without any assistance because I lean on my device think I should stop just because I am in a wheelchair"* (Verbatim expression by a participant).

Other participants also made the following comments:

> *"Cooking has been my hobby even before I had my accident some years back, so, for cooking I love it and not even my conditions can takeaway cooking from me...she burst into laughter after her comment"* (Verbatim expression by a participant).
> *"Bathing and dressing for support"* (Verbatim expression by a participant).

From the comments above, there were no apparent hindrances to carrying out daily living activities on the part of the participants with the help of their mobility devices. Engaging in daily living activities were critical in facilitating successful living at home for the participants, all of which are important in independent living. People with mobility impairments irrespective of their conditions and with the appropriate provision of mobility devices need to be able to avail themselves in addressing issues that pertains to their self-care aside the assistance from their families, and they must

be seen concerned about their own well-beings. In support of this view, Long (2012) stated that mobility devices must be seen as having preventive potential because they might minimize greater dependency of the people with disabilities on family members, thereby maintaining sense of themselves as full adult persons. Also, there were indications that participants were willing to fully engage in daily living activities. This was because they wanted to be self-reliance rather than always waiting on other people to accomplish these activities for them.

Also, this may be an effective way of encouraging people with disabilities that, self-dependence brings dignity and self-esteem.

Work

Ability to work was one of the benefits participants in the study also mentioned. According to the participants, their access to mobility devices has contributed greatly to their ability to take up social roles. The following were their comments:

> *"I opened a new cement depot last year where I work, my device assist me to go to the shop"* (Verbatim expression by a participant).
>
> *"Because I work I am able to take care of my family and children in school if not for my device I would have been very difficult to go work. I also attend family gatherings to contribute dues anytime there is a funeral or any important occasion in the family"* (Verbatim expression by a participant)

From the responses above, the participants noted with joy that they were able to work because they have access to mobility devices. Also, some revealed that they are able to take up family responsibilities such as taking take of their children because they have access to mobility devices. Again, some had also revealed that they contribute financially during important occasions in the family. The World Health Organization (2010) observed that being actively involved in social roles may bring about personal

identity and self-esteem for the people involved. It further noted that taking up social roles such as work, are important as they give identity and meaning to life. Again, an individual's social status can be linked by the various social roles they can play within their community. For example, being a wage earner may be highly applauded, valued and will have a positive impact on social status on the individual involved, whereas being unemployed may be less valued and it can lead to negative impact on social status.

Recreation, Leisure and Sport

On the aspect of recreation, leisure and sports, these comments were made by some of the participants:

> *"I sometimes join the town guys to play draft and cards, especially during the Aboakyir festival" (*Verbatim expression by a participant).

Another person also stated this:

> *"I remember that during the New Year, I joined my fun club to the beach for fun and it was great" (*Verbatim expression by a participant).

Although recreation, leisure and sports activities are one of the few opportunities people with disabilities have to take part in community life beyond their immediate families, adults with mobility impairments participating in recreation, leisure and sport may help reduce loneliness therefore can help prolong their lives. Engaging in activities such as sports and other leisure activities may also bring about health benefits. Recreation, leisure and sports may help adults with mobility impairments to refresh their bodies and minds and make their leisure time more interesting and enjoyable. These can also enable them to rest, relax and enjoy life to the maximum. Radomski and Trombly (2008) also underscored that mobility allows participation in fulfilment of social desires and enablement of independence, because in the case of

adults, their desire to be relieved of excessive stress and loneliness of coping with life, encouraged them to see participation in recreation, leisure and sport as the best solution to their conditions.

Family Participation

On the issue of family participation, the participants noted that access to their mobility devices have enabled them to engage in family responsibilities. These were some of the comments made:

> *"I have a wife and three children as I am talking to you right now. Two of my children are in school; one in the senior high school and other in the junior high school"* (Verbatim expression by a participant).
>
> *"Even though my first husband left me after the disability, another man expressed interest in me which I accepted, so we are living together as husband and wife"* (Verbatim expression by a participant).
>
> *"I take part in most of our family meetings with the assistance of my mobility device because I can move on my own"* (Verbatim expression by a participant).
>
> *"I am also involved in the decision making in my family whenever the need arises irrespective of my condition, I am not isolated"* (Verbatim expression by a participant).

From the information gathered most of the participants are married and living together. They also admitted that their families involve them in decision making process whenever the need arises. It was also evident from the comments by participants that, their zeal and willingness to take part in family responsibilities and social roles were to counter the assertion from the society, in relation to the notion that people with disabilities are object of isolation and charity. As noted by the WHO (2010), when people with disabilities are presented with the opportunity they can take up social roles. They further observed that some of these roles could include those related to relationships, such as husband, wife, sister, brother or friend. Indeed, relationships, marriage and family are very important value of every society.

Moreover, belonging to a family can provide support and security. Furthermore, it is important that society also recognize that people with disabilities have the right to establish or belong to a family.

The findings on this research question raised is consistent with Vroom's expectancy theory 1964 which indicates that an individual's choice concerning an activity is influenced by an anticipated outcome which in effect is driven by motivation and the unique individual needs of that person. With growing recognition that every person with disability is an individual with specific needs, getting access to mobility devices are tailored to benefit them.

Summary of findings on research question 2

The findings under this theme showed a great level of benefits in relation to access to mobility devices for the participants sampled for the study. There were numbers of benefits mentioned including independent mobility, balance, physical activities, work, recreation, leisure and sports, and family participation.

4.4 Theme Three

Barriers to Access Mobility Devices

To answer this research question, the interview data collected were used.

Financial Constraints

Financial difficulties were a major challenge to the access of mobility devices. All the participants interviewed had to receive their mobility devices from donors because they could not afford their mobility devices directly from the pocket. One of participants interviewed and who needed a new device but could not buy one due to financial constraint said:

> *"My left leg cannot function. I had struggle before getting this device from some donors, but now it is old and I need a new one. However, I don't have the money to replace it with a new one"* (Verbatim expression by a participant).

Another also narrated this:

> *"Buying mobility devices with money from my pocket has been difficult. I do not have the amount that a wheelchair cost. I had to rely on charity organization for help"* (Verbatim expression by a participant).

Another also commented this:

> *"Money is really a problem for me; I wish I could buy a new wheelchair"* (Verbatim expression by a participant).

Another disclosed the following:

> *"The device is very expensive my salary cannot afford it"* (Verbatim expression by a participant).

From the data analyzed, there was financial problems that served as a challenge for the participants in accessing mobility devices. It was discovered that all the participants included in this current study had to solely rely on donor organizations or charity organizations for their mobility devices. In some instance as indicated by one of participants, buying a mobility device directly from the pocket was a huge problem because there was no money. Also, most of the participants had to wait for a long time before accessing devices due to financial difficulties. Again, the participants complained that the devices were costly that, they could not afford it. Indeed, there may be several mobility devices available for people with mobility impairments, but several barriers hinder the adoption of these devices such as the challenge of affording the device (Centre for Technology and Aging, 2010). Moreover, the trends seem to be more severe for especially users who live in developing countries where the economy is poor. It is again evident that those people with mobility impairments who come from the poor backgrounds are likely to find it very difficult owning a mobility

device; since there is often a great burden on families to purchase mobility devices directly from their pockets (Montes & Halteman, 2008).

These results corroborate a research done by Johnson and Wilson (2010) which revealed that people with mobility impairments paying for mobility devices is one of the major barriers in accessing mobility devices. Interestingly, the findings from this study in relation to the costly nature of mobility devices as expressed by one the participants "*I do not have the money that a wheelchair costs*", is at variance with one of dimensions of the Penchanski and Thomas theory of access. In their theory of access, Penchanski and Thomas underscored that access to a service must be seen to be affordable so that users can have easy access to that service (Saurman, 2016). However, in this study, most participants complained of not having access to mobility devices on time because they could not afford it, and that the devices when available are most often too costly.

Donor Scarcity

Lack of donors was also a problem. It was found out that only on rare occasions did donors come around to support in providing mobility devices for people who required them. Again, locating donors was not easy. One of the participants said:

> *"I wanted a new wheelchair because I could not walk to distance places using my leg. I was sure that having one was going to help me engage in daily routines. However, it took time because I could not find a donor"* (Verbatim expression by a participant).

> *"It is very difficult to always find those who come from charity or non-governmental organizations to provide mobility devices that we may need. Those that are there are mostly located in the cities thereby making unlikely for those of us here go after them"* (Verbatim expression by a participant).

It was found out that it was on rare occasions that donors are found to assist users with mobility devices. More so, those donor organizations or charity organizations available are said to be mostly found in the cities and therefore people with the need of the mobility devices find it extremely difficult to travel to the cities to search for them because of the financial constraints and the transportation challenges that people with mobility impairments face. A report by the World Health Organization (2011), stated that the provision of assistive devices seems to become a daunting task for many governments especially those in low-income countries because these devices have been in short supply. The organization further revealed that these situations most often forced non-governmental organizations to engage in service delivery and note again that these non-governmental organizations also in some cases do not have enough financial capacity to continue to develop perhaps a sustainable services delivery system to cover entire country. The resultant effect is therefore that, people with the need for mobility devices who live in the remote parts of the country and far away from the likely available non-governmental donors of mobility devices would miss out.

Donor Approach

It was also discovered that even if donors for example non-governmental organizations and charity organizations are located, they turn to assist only small number of persons. This was a participant's comment:

> *"I was directed to a place where mobility devices were distributed without money. It was a charity organization but they told me that their focus was individual with more severe impairments that they assist with devices and I came back home without a device"* (Verbatim expression by a participant).

Another also had this to say:

> *"There was a day I had information that some white people were given out wheelchairs for free. But to my surprise, I was told the wheelchairs were meant for older adults and that they were now going to start planning toward younger adults"* (Verbatim expression by a participant).

From the analysis of the data, if donors such as non-governmental organizations, charity organizations and other bodies are found, they seem to have varying attitudes and can assist only few numbers of individuals. It was also the case that some of the organizations may not have enough resources or the budget funding for all the category of people with disabilities and therefore could decide to focus on a single category of disabilities to the neglect of other disabilities. Because, as noted by the World Health Organization (2011) most non-governmental organizations as a result of lack of financial capacity may resolve to channel their services to concentrate on a particular service delivery system and also, most of their services may sometimes be geared towards specific impairments, age groups and/or geographical area.

Unavailability of Devices

The study also highlighted difficulties in relation to access to mobility devices as a challenge to accessing mobility devices for adults with mobility impairments in the municipality. A comment from a participant was this:

> *"If I had a mobility device on time my condition would have improved better than it is today. But due to lack of available devices in the area I had to wait for it from far away"* (Verbatim expression by a participant)

> *"When I was first advised by the doctor to go for a mobility device, it was not easy finding the device because some are not being produced here in this area. It was later that someone directed me to a place for one"* (Verbatim expression by a participant)

From the data there were complaints about mobility devices not being available for access. Because of this, most participants could not have access to mobility devices on time. Even when it was evident that access to these devices could have improved the participants‟ situation, they had to wait for a long time before owning one. The comments from the participants were also in conflict with one of the core principles

(Accessibility) of Penchansky and Thomas‟s theory of access. They noted that access to a service must be accessible to those who may require their use. Some of the participants place the lack of available devices on the door step of non-production of mobility devices in the area. Furthermore, where it happens that provision of mobility exist, they are often more centralized in major urban centers, where travelling to these places becomes more impossible for people with disabilities and family members because of cost, and in addition to the fact that public transport to these areas are far away from where people with disabilities and families live (Dejong et al., 2002; Penny et al., 2007).

Problems with Device Replacement

It also came up that participants were finding it very difficult trying to replace their old devices with newer ones because most of the old device had gone through many repairs already. These concerns were raised:

> *"As a woman, I need to see to it that my children are taking care of before they go to school and because my device is old Ian unable to rely on it for most of these daily routine works. It is very difficult finding a newer device to replace the old one"* (Verbatim expression by a participant).

Similar comments were also expressed by another participant who uses a tricycle for mobility:

> *"I have been using this device for so many years but now it has become very old with some of the parts are falling off. The problem as at now is that I am unable to find a newer one for easy ambulation"* (Verbatim expression by a participant).

From the evidence gathered above, there were issues that bothered on device replacement. What this meant is that participants could not readily replace their old devices even though the ones they have been using are old and they would have preferred newer devices. Greater number of the participants interviewed confirmed that they have been using their present devices for a very long time and could not rely on the same devices for their daily routines. Some even went further to mention that part of their devices is falling off, but the problem was how to find new devices. One of the participants, a woman, was not happy about the situation because her device was old and finding it extremely difficult to get a new one. She also narrated that due to the old nature of her device it becomes very difficult for her to take care of her young children before they go to school.

Lack of Repair and Maintenance of devices

There was again an issue about repair and maintenances services problems for those that want their devices repaired and maintained. This problem was expressed by some participants:

> *"I got my wheelchair from one of the donor organizations but it becoming weaker each. There is no place around this area to repair it"* (Verbatim expression by a participant).

> *"Maintaining my device is very difficult, I have to travel to Accra to do it"* (Verbatim expression by a participant).

> *"I don't remember the last time I repaired my wheelchair"* (Verbatim expression by a participant).

From the data, it was revealed that even if repair and maintenance services exist, they turn out to be costly. Thus, for these current participants, lack of effective repair and maintenance services coupled with the high cost of repair maintenance was a challenge in using mobility devices. A work done by the WHO (2010) cautioned that it may be unrealistic for people with disabilities living in rural areas to travel to specialized centers to have their devices repaired and this could lead to the effect of device abandonment when they experience difficulties using them. To help solve this problem, the organization further suggested that local artisans can be trained to make small repair to assistive devices by replacing straps, screws or reverts.

Lack of Awareness

Awareness about where mobility devices are provided, new mobility devices and the benefits derived from using the devices was mentioned as the challenges to accessing mobility devices. Several of the participants interviewed said that they had no information where mobility devices were currently available or about the modern devices that they were eager to use:

> *"A friend who is not disabled informed about where to get a mobility device that can help me ambulate. But I personally did not have any information about mobility devices"* (Verbatim expression by a participant).

It was clear that, information about current mobility devices is seldom disseminated. This is due the fact that people with information about modern mobility devices think those who need such services may not be interested or that even if they are informed may not be capable to afford them. This was the comment a participant:

> *"The nurse who prescribed the device for me did not give me enough information about the merits and demerits of the device and where to access the device. Also, I did not myself bother to find out more information about it"* (Verbatim expression by a participant).

From the interviews it was gathered that participants did not have enough information on where to get mobility device. It was also revealed that even information on the benefits of the use of mobility devices was not adequately disseminated and again, most participants were not so much informed about the modern mobility devices that they so much desired to use. However, only small number of participants stated that they have some level of knowledge about mobility devices; where to get access to them, their benefits and the modern mobility devices that have been introduced. Furthermore, those who admitted they had information stated that that information came from colleagues with mobility impairments. Kaye, Yeager, & Reed (2008) opined that education is linked with socio-economic status and therefore people who are better educated may likely know about devices that available and can feel confident about using them, particularly those that come with sophisticated technologies. The authors further noted that disparities may therefore be attributable to differences in awareness in relation to mobility devices and the perceived benefits of using them as may be opposed to economic factors.

Difficulty in getting to public Places

Even with the mobility devices people with disabilities still face problems relating to the accessing public and private places. In this study, several of the participants complained about the difficulties they face in trying to access public and private places:

> *"It is always very difficult for me reaching public places with my wheelchair because there are no access ways available. This situation almost discouraged me from accessing one"* (Verbatim expression by a participant)

Interestingly, most participants included in the current study were eager to get things accomplished on their own, using their mobility devices. Another one said:

> *"Even with this wheelchair, I am unable to get to public and private places as there are no access pathways. Everywhere there are steps except few places that you can find ramps. So, what is the use of having the devices if you cannot use it achieve the purpose you need for" (Verbatim expression by a participant).*

From this study there were issues raised about access to public and private places even when participants had access to mobility devices such as wheelchairs. In the comments expressed by the participants it was stated that the participants did not want to have access to their devices because they felt the environment was not going to allow them to use it. They noted also that if the benefits of going to afford a device cannot be realized, then it was better not to own it. These frustrations were highlighted because most often, people with disability especially those who use mobility devices such as wheelchairs always seem to encounter barriers in the physical environment as there are mostly no pathways (ramps) for them to ride their devices on in order to access places they may wish to have access to. More so, the issues about inaccessible places for those with mobility devices cannot be overlooked because a number of these physical environmental barriers also exists that pose danger to accessing of mobility devices. In confirming these physical barriers Wearmouth and Willandt (2009) noted that, these numerous physical challenges in the environment can create barrier to limit personal access to mobility devices and use of mobility devices. The authors also stated that an individual would not be able to use a device such as wheelchair of good quality in an inaccessible house, or workplace.

Fear of Stigmatization

The analysis of the data revealed that most of the participants contemplated not using mobility devices because they fear they might look different from other people. Some even assume that they would evoke negative comments from the public should they use mobility devices. It was evident that most of these challenges were rooted in the participant's inner feelings. These were some of the comments:

> *"I first and foremost using a device was not in my thinking. I did not want people to talk about me or see me differently when using the device"* (Verbatim expression by a participant)
>
> *"I did not like to go out for gatherings at first because I was afraid people may gossip behind my back when they notice me using a device"* (Verbatim expression by a participant).

The fears of facing stigmatization from the public were revealed by the participants as one of the challenges they face when they consider accessing mobility devices. According to them they did want people to talk about them when using their devices in the public. These assertions by the participants confirmed what the Centre for Technology and Aging (2010) also found out when it noted that many people with disabilities either refuse or are reluctant to use mobility devices because of the stigma that comes with their use.

This finding is consistent with the social model of disability which argues that it is the barriers that make people disabled and not the disability. It further indicates that barriers such as inaccessible devices can incapacitate people with disabilities further by rendering them unable to perform a task. In this study, it was found that although adults had access to mobility devices, there were still numerous barriers to accessing the devices. For instance, some of the participants who needed to replace their old

devices with newer ones are unable to do so because newer devices are unavailable for easy access.

Summary of findings on research question 3

Based on the findings on research question 3, financial constraint, donor scarcity, donor approach, unavailability of devices, problems with device maintenance, lack of repair and maintenance of devices, lack of awareness, difficulty in getting access to public places and fear of stigmatization were the barriers faced to accessing mobility devices.

4.5 Theme Four

Improving Access to Mobility Devices

To answer this research question, the interview data collected were used.

Here, the participants interviewed were asked to suggest measures that can be put in place to help increase access to mobility devices for adults with mobility impairments in the Winneba Municipality. According to the participants, having a detailed national data through the social welfare departments in the various districts would help identify the mobility device needs of the beneficiaries. These comments were expressed:

User Needs

> *"To me, it will be good if the social welfare departments can take it upon themselves if, only they would be interested, to find out the number of people with or without mobility devices"* (Verbatim expression by a participant).

> *"We require national research into how many people with mobility impairments who lack access to devices. It would be the only way to solve the problems related to access to mobility devices"* (Verbatim expression by a participant).

The comments from the participants show their opinions for a national data on the user's met and unmet needs that would help alleviate the challenges they go through when accessing mobility devices. In one of the participant's opinion suggested that the Social Welfare Department can take issues up by finding out the number of people with disabilities who have or do not have mobility devices. Another also offer the suggestion that it will require a national research into how many people with mobility impairments without access to mobility devices and according to this participant, that will be the only way for the problem to be solved. Corroborating the suggestions by the participants, the World Health Organization (2011) also stated in their paper that national data on needs for mobility devices – both met and unmet are of great importance for policies and programmes. For example, those needs that are met and unmet can be assessed through data on prevalence of disability, disability research and population and administrative data. Furthermore, it is noted that the supply of mobility devices can be estimated from administrative data that may involve mobility devices provision.

Living status

The participants also commented on the need for the government to have data on the living conditions of people living with mobility impairments. One participant had this to say:

> *"I suggest that when our situations are taken note of, it would help to quicken the effort for the provision of devices"* (Verbatim expression by a participants).

Another participant also said:

> *"It appears that the conditions of people with mobility impairments are not well known. This is making it very impossible for successive governments to pay much attention to our needs especially in the areas of access to mobility devices"* (Verbatim expression by a participant).

Another also commented as follows:

> *"Our conditions are not that good even though some efforts have been made to tackle our plight. There is the need for further research on the present predicaments of people with disabilities in general to help strengthen desire for improving access to mobility"* (Verbatim expression by a participant).

From the comments above, the participants suggested that in order for measures to be put in place to increase access to mobility devices; there is the need for government to have data that reveals the living conditions, in which people with mobility impairments live. They further revealed that some of them, their living conditions are not that good even though some efforts are being to find solution to their plight. The comments by the participants is in line with what Kamaleri and Eide also noted, when they posited that knowing the actual living conditions among people with activity limitations would necessitate efforts toward improving access to mobility devices. (Kamaleri & Eide, 2011). Most often, knowing the actual living conditions of people with disabilities could be difficult. This is because, most families who have people with the impairments may be unwilling to disclose such individuals publicly with the fear that it might lead to public resentment and, sometimes for the protection of the family image.

Collaboration

Partnerships between stakeholders toward measures to increasing access to mobility devices also came up during the interview of the participants. Almost, all participants suggested that there should be partnerships between stakeholders as a strategy to help increase access to mobility devices. According to the participants, partnerships between stakeholders in the field of provision of mobility devices would help strengthen the funding support base for increasing mobility device provision. Below were the suggestions from the participants interviewed:

> *"What I can suggest is that all the various donors should form partnerships to make it easier to achieve the increase in access to mobility devices. When they do this, it would make funding also very easy"* (Verbatim expression by a participant).

> *"As it is now, there are many people who are trying to help us with mobility devices but if all these people can form an alliance, I think it would help a lot. For example, local donors can work with other donors from outside. This would help bring down the burden of the individual donor's* (Verbatim expression by a participant).

It was obvious from the participant's suggestions that there may be little or no partnerships between donors or sponsors who provide assistance in relation to mobility devices for people with mobility impairments. The concerns raised could be as a result of lack of consistency of donors and stakeholders toward accelerating access to mobility devices. The forming of partnerships among various stakeholders can play a role to support national efforts, coordination and collaboration, and helps prevent duplication (WHO, 2011).

Moreover, in the participant's suggestions, partnerships can be formed at both the national and international level in the form of coordination and collaboration, which can help minimize the over burden that the few mobility device providers go through in their bid to satisfy the mobility devices needs among clients.

As one of the participants noted:

> *"Sometimes, when you are assured of a device it delays before it comes. Sometimes too, those who promise us also complain of lack of funds and unavailability of devices in the system"* (Verbatim expression by a participant).

From the evidence above, it showed that not all the time those donors are able fulfil their promises in relation to providing mobility devices on time. Also, as one of the participants noted donors sometimes lack the necessary financial capacity to redeem their pledges of support. It is no doubt that, mobility devices for people with mobility

impairments are most often provided by a broad range of stakeholders including the government, international agencies, non-governmental organizations, (or charitable and faith-based organizations), and the private sector (Shadel, 2014). When resources and capacity are limited, partnerships can be formed to bring about good services delivery.

Funding Support

Another issue that also came up during the interviews was the suggestion that mobility devices should be made affordable for people who may require their use. The participants complained about the high cost of mobility devices, and the lack of funds to purchase them. They also suggested that there was a need for adequate budgetary allocations and funding of mobility device provision to help cater for the needs of the users.

Some of the sampled suggestions by the participants include:

> *"Government needs to invest money in production of mobility devices locally. When this is done more devices can be produced to feed the population"* (Verbatim expression by a participant).

> *"I know of some organizations producing mobility devices in the country. These organizations can be assisted by government through budget allocation so that the cost of the devices produced can be reduced for those who require their use to buy"* (Verbatim expression by a participant).

The issues bordering on high cost of mobility devices has been one of the fore most challenges that confront people with mobility impairments. Even where mobility devices are available, the cost of paying for such services becomes a burden on family members:

> *"There is a need for much attention to be focused on funding for mobility device production locally. If nothing at all, a small amount of funding from government to help private individuals engaging in mobility device production would be beneficial. This may help reduce the high cost of selling the devices after production"* (Verbatim expression by a participant).

Achieving affordable implementation relating to provision of access to mobility devices requires budgeting and allocation of necessary funding; where the needs for adults with mobility impairments need to be identified and made available at an affordable price (WHO, 2015). Because, the development of important mobility devices could be facilitated through many funding mechanisms including government funding, donor funding, national or private insurance schemes, public or private assistive technology funds, existing systems and infrastructure; for instance, healthcare, education, and community-based rehabilitation.

Training of personnel

Training of local artisan in the production of mobility devices, in maintenance services were a major suggestion by the participants. Participants mentioned that training experts locally to manufacture mobility devices could help increase production. The participants were also of the opinion that locally trained artisans can be equipped with the necessary skills in maintenance of mobility devices. The following were their views:

> *"We need in the country locally trained people who can manufacture mobility devices, for example, artificial legs, crutches and others"* (Verbatim expression by a participant).

> *"I think we depend too much on external help in everything we need in this country. How can't our governments prioritize training of indigenous people to produce some of these devices with the assistance of funding? I know people have talents to do it"* (Verbatim expression by a participant).

The opinions from the participants were of the indication that there is a huge gap when it comes to training of local experts who are specialized in producing mobility devices. The suggestions as raised by the participants again seemed to illustrate to a very large extent the low interest of government in investing into the production of mobility devices locally. The participants suggested that local artisans can be trained to make small repairs to mobility devices as orthoses, prostheses and wheelchairs, example repair orthoses by replacing straps, screws or rivets (WHO, 2010). This according to the findings is needed because most often, people who use mobility devices have to abandon their use not because they do not want to use them again but because most of them can not readily access repair and maintenance services for their devices when they breakdown.

Another participant also noted:

> *"I don't understand why I have to still wait for the donors to come and carry my wheelchair for repairs when it is broken down. Why can't we have people in the community well trained to solve little problems such as this"* (Verbatim expression by a participant)?

Lack of well trained personnel could account for a major setback to the provision of appropriate mobility device services. It was reported that several countries had announced insufficient, unstable or unavailable supplies of rehabilitation professional (Stanmore& Waterman, 2007). The case of insufficient or lack of well-trained local personnel in the industry of mobility devices as the research has showed above can work against the efforts of achieving access to mobility devices for those who require their use. There is equally important to have well trained personnel who are knowledgeable in repairing broken down devices. It is also important to add that personnel trained should have the needed resources and tools to enable them function properly.

Awareness about mobility device

On awareness as one of the measures, these comments were made:

> *"If they want me to use something I do not have enough knowledge about can bring about fear because I may not even know how it functions. So, for me, education is very much needed"* (Verbatim expression by a participant).

> *"There should be some level of information about the devices before they are provided for use because now, there are many modern ones that the user requires more education to be able to adjust to their use"* (Verbatim expression by a participant).

Lack of proper awareness about mobility device services, and the negative attitudes about disability were some of the concerns the participants also suggested must be tackled as far as access to mobility devices is concerned. Clearly, education can play a major role in determining mobility device usage because people who are better educated to know about devices that are available can feel confident about using them, particularly those that come with sophisticated technologies (Kaye et al., 2008). However, the participants interviewed raised concerns about lack of conscious efforts on the part of successive governments", donors and those who prescribe mobility devices to make available the necessary information about the advantages and disadvantages of mobility devices and about their use to them. Majority of the participants complained that they did not have enough education concerning the use of mobility devices, as well as the locations these devices can be found. Also, lack of awareness of services relating to mobility devices can influence the person or the family seeking devices. Assuming there are devices available but no information is provided about them, the resultant effect may be that individuals or family members seeking such services may not have access to them.

Public education

Another measure the participants mentioned was that there must be public education for people to have knowledge about mobility device benefits for people with disabilities, in order to minimize the negative attitudes, they face when they come in contact with people.

These were some of the comments:

> *"The wheelchair is my mode of walking so people should be educated to understand that. Using a wheelchair does not mean I am not a human being"* (Verbatim expression by a participant).

> *"I have decided not pay attention to what people say about me and my device. People need to be informed about disability and the important use of mobility devices and other assistive"* (Verbatim expression by a participant).

There were again issues about public negative attitudes towards some of participants because they use mobility devices. Most of the participants said that they face negative attitudes when they are using their devices. Most of them explained that the reactions from people when they meet evoke sentiments that make them uncomfortable. Even though negative sentiments cannot be totally overcome, however, some level of public education can help minimize their impact. The comments expressed above confirm a study done by the Centre for Technology and Aging (2010) which revealed that people with disabilities may be reluctant in using mobility devices because of the stigma that comes with their use.

Policy and legislation

Participants also recommended policies and legislations as strategies to increase access to mobility devices. According to the participants, ensuring effective implementation of policies and legislations relating to the provision of mobility devices would bridge the wide gap that exists currently. These were some of the comments:

> *"It is high time good policies are made towards increasing access to mobility devices, policies to address the issues relating to lack of funding"* (Verbatim expression by a participant).
>
> *"Currently it is clear that our governments' over the years have not put in place good policies and legislations to address to very problems we face when it comes to mobility devices. So, policies are very well needed"* (Verbatim expression by a participant).
>
> *"The current Disability Act should be passed into law. If it is done, it will pave the way for other policies. We need policies on mobility device provision because it our means of"* (Verbatim expression by a participant).

Provision and access to mobility devices needs to be included into existing or new legislation, strategies and policies and the documents backing the provision of mobility devices, in order to address the issue of physical and cognitive accessibility to mobility devices and services, and also to public in-and outdoor environments and facilities (WHO, 2015). Because, having a policy that backs access to mobility devices will help bring down the perpetual frustrations people with mobility impairments would have to go through in the event of accessing mobility devices in the future.

The desire for improving on access to mobility devices on the part of adults with mobility impairments conforms to Vroom's 1964 expectancy theory which suggest that expectancy is about mental processes regarding choice or choosing. He explains that expectancy is the belief that increased effort will lead to increased performance,

instrumentality he says is the belief when an activity is performed well, a desired outcome will be achieved and valence is the importance one places on the desired outcome of the said activity.

Summary of findings on research question 4

Analysis of the data revealed ideas and measures that participants suggested can be put in place to improve access to mobility devices for adults with mobility impairments in the Winneba Municipality. These measures include partnerships among mobility device service providers, education about availability and the benefits of using mobility devices, addressing the issue about lack of policy and funding for mobility device provision to address the challenges.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATION

5.0 Introduction

This chapter presents the summary, conclusion, and the recommendations for the study.

5.1 Summary

This study focused on access to mobility devices by adults with mobility impairments in the Winneba Municipality in the Central Region of Ghana. The following research questions were raised that guided the study:

1. How do adults with mobility impairments have access to mobility devices in the Winneba Municipality?
2. What benefits do adults with mobility impairments derive from getting access to mobility devices?
3. What barriers do adults with mobility impairments face in getting access to mobility devices?
4. What measure should be taken to improve access to mobility for adults with mobility impairments in the Winneba Municipality?

The study employed a qualitative case study, with semi-structured interview guide for data collection. Ten (10) individuals were purposively sampled to take part in the study, with the participants aged 40 to 65 years. All the participants were mobility device users; wheelchairs (5), crutches (4) and tricycle (1).

Independent mobility, daily living activities and social roles were the benefits enumerated by the participants from the use of mobility devices. Financial constraints were a major challenge to participants in seeking to access mobility devices. They

also mentioned lack of repair and maintenance services, as well as unavailable devices as barriers to accessing and using of mobility device. Participants also offer suggestions relating to measures that can be put in place in order to increase access to mobility devices. These measures include, data on users met and unmet needs, partnerships among stakeholders in mobility devices provision, adequate budgetary allocation or funding of mobility devices provision, training of local artisans in manufacturing, repair and maintenance of mobility devices, information and education about mobility devices, and promulgation of policies and legislations to address provision of mobility devices.

5.2 Conclusion

The study concluded that access to mobility devices by adults with mobility impairments were mainly from donor, church and family supports.

It was also found out that there were a lot of benefits about access to mobility devices for adults with mobility impairments, it included independent mobility, body balance, physical activities, activities of daily living, work, recreation, leisure and sports, and family participation.

The findings also revealed that many barriers prevent access to mobility devices for the participants, this included financial constraints, donor scarcity, donor approach, unavailability of mobility devices, and lack of repair and maintenance of devices.

The findings again revealed that policies and legislations, data on met and unmet needs, government funding, and awareness about how mobility devices can improve quality of life for people with mobility impairments, will help in improving access to mobility devices in the Winneba Municipality.

5.3 Recommendations

Based on the findings of the study, it is recommended that:

1. Adults with mobility impairments find innovative ways of getting more NGOs involved in funding for mobility devices. This would help to boost access to mobility devices for many people with mobility impairments.
2. Adults with mobility impairments highlight the benefits they derive from the use of mobility devices. Since mobility devices are the means by which they enjoy their human rights, highlighting the benefits would help improve access to mobility devices for them.
3. Adults with mobility impairments should channeled the barriers they face in getting access to mobility devices to the Department of Social Welfare, so that the barriers can be addressed. They can also use their local association to advocate on their behalf, if they feel they may not be able to do so themselves.
4. Adults with mobility impairments strengthen the relationship between them and the service providers, by putting across the measures they think are ensured in improving access to mobility devices at the Municipality.

5.4 Suggestions for Further Research

Because of the small sample size used for this study, it would be difficult to state that the findings are the true reflection of what pertains to other population. As a result of this, further research will be needed to explore access to mobility devices for adults with mobility impairments in Ghana as a whole. Furthermore, it would also be appropriate if subsequent research will be tailored to other aspects of disability. Again, further research could be undertaken to explore the challenges that comes with using mobility devices for people with mobility impairments.

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APPENDICES

APPENDIX

INTERVIEW GUIDE FOR ADULTS WITH MOBILITY IMPAIRMENTS

Part one: Demographic Characteristics of Respondents

1. Age: ……..
2. Gender: Male [ ] Female [ ]
3. Marital status: Single [ ] Married [ ] Divorced [] Separated [ ] Widowed [ ]
4. Academic status: Primary [ ] Junior High School [ ] Senior High School [ ] University [ ]
5. Employment status: Self-employed [ ] Public Servant [ ] Unemployed [ ]
6. Type of mobility device used: Wheelchair [ ] Crutches [ ] Cane/walking stick [ ] Walkers/walking frame [ ] Tricycle [ ] Scooters [ ] Orthoses/prostheses [ ]
7. Cause of mobility impairment: Motor accident [ ] Occupational accident [ ] Congenital disability [] Diabetes Mellitus [ ] other [ ]

INTERVIEW GUIDE FOR ADULTS WITH MOBILITY IMPAIRMENTS IN THE WINNEBA MUNICIPALITY OF THE CENTRAL REGION OF GHANA

(FACE-TO--FACE INTERVIEW)

Research question 1: Adults with mobility impairment have access to mobility devices

Please can you describe how you got access to your mobility device?

Probes:

a) government support

b) non-governmental support

c) church support

d) family support

e) disabled people organization's support

f) friends support

Please would you say the device has met your expectation?

a) Acceptability

b) Adaptability

c) Quality

Research question 2: Benefits adults with mobility impairments

Please how does your mobility device benefit you?

Probes:

a) independent mobility?

b) achieving balance?

c) physical activity?

d) performing daily activities?

e) work?

f) recreation?

g) family involvement/participation?

h) political office?

Research question 3: Barriers to getting access to mobility devices

Please can you describe what barriers you face in getting access to mobility devices?

Probes:

a) finance

b) lack of donors

c) attitudes of donors

d) device unavailability

e) replacement problem

f) repair and maintenance

g) awareness

h) physical environment

i) stigmatization

j) fear of injury

Research question 4: Improving on access to mobility devices Please what do you think should be done to improve access to mobility devices?

Probes:

a) needs of users

b) living condition

c) collaboration

d) funding support

e) training of personnel

f) awareness about devices

g) public education

h) policy and legislation