

**BARRIERS TO PARTICIPATE IN ACTIVITY OF DAILY LIVINGS
IN THE COMMUNITY AMONG THE PERSONS WITH SPINAL
CORD INJURY**

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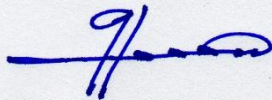
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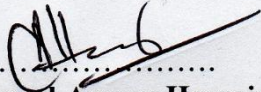
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“BARRIERS TO PARTICIPATE IN ACTIVITY OF DAILY LIVINGS IN THE COMMUNITY AMONG THE PERSONS WITH SPINAL CORD INJURY”

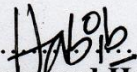
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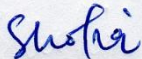
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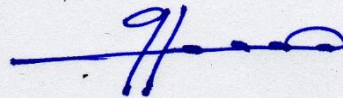
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Declaration

I declare that the work presented here is my own. All sources used have been cited appropriately. Any mistakes or inaccuracies are my own. I also declare that for any publication, presentation or dissemination of information of the study. I would be bound to take written consent from the Physiotherapy department Bangladesh Health Professions Institute (BHPI).

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Acronyms

ADL:	Activities of Daily Living.
BHPI:	Bangladesh Health Professions Institute.
BMRC:	Bangladesh Medical and Research Council
CHIEF:	The Craig Hospital Inventory of Environmental Factors
CPI:	Community Participation Indicators.
CRP:	Centre for Rehabilitation of Paralysed.
ICF:	International Classification of Functioning.
IRB:	Institutional Review Board
MQE:	Measure of the Quality of the Environment
PA:	Physical Activity
QOL:	Quality of Life
SCI:	Spinal Cord Injury.
SPSS:	Statistical Package of the Social Sciences
WHO:	World Health Organization
WHODAS 2.0:	World Health Organization Disability Assessment Schedule 2.0

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Abstract

Purpose: The purpose of the study was to find out the barriers to participate in activity of daily livings in the community among the persons with spinal cord injury. *Objectives:* To assess the Socio-demographic information, understanding, communicating, mobility, Self-care, getting along with people, household activities, work activities and participation. *Methodology:* It was a cross sectional study. 50 samples were conveniently selected from Savar and Dhamrai Upazilla of Dhaka district of Bangladesh for the study. Among them 78% (n=39) was male and 22% (n=11) was female. Interviewer administered Bengali version of The World Health Organization Disability Assessment Scale II (WHODAS II) 36 items was applied to people with spinal cord injury living in their own community who completed their rehabilitation from CRP. *Results:* In the study the total participants were 50. The minimum age was 20 years old and the maximum age was 80. Each item of WHODAS 2.0 questioner was rated on a 5-point scale, from 1 (no difficulty) to 5 (extreme difficulty/cannot do). The instrument produces a total score (disability level) and 6 domain scores, ranging from 0 (best) to 100 (worst). The disability score was calculated using the Statistical Package for the Social Sciences (SPSS). In this study, the greatest limitation was found in the domains of 'mobility' (mean \pm SD: 76.88 \pm 30.38). The least limitation was found in 'cognition' domain (mean \pm SD: 21.40 \pm 23.95). Other domains, mean \pm SD were 55.20 \pm 35.47 for 'Self-care', 30.50 \pm 27.42 for 'getting along', 61.20 \pm 29.20 for 'household activity', and 46.43 \pm 23.14 for 'work or school activity' 50.25 \pm 20.50 for 'participation' and 47.59 \pm 25.88 for total score. *Conclusion:* This study provides a common metric of the impact of spinal cord injury in terms of functioning of ADLS. Most barriers among the community living spinal cord injured people is mobility and self-care activities. *Keyword:* Spinal cord injury, activity of daily living, barriers, participation, community.

1.1 Background

A spinal cord injury (SCI) means impairment to any part of the spinal cord extending from the spinal cord that often results in permanent changes in motor and sensory abilities and other body functions below the point of the injury. The physical impairments from SCI vary as a function of the level and completeness of the injury. Nearly every aspect of a person's life—physical health, work and occupation, personal relationships, and recreation—may be affected following SCI (Dixon & Budd, 2017).

Spinal cord injury (SCI) will be a disastrous harm connected with critical practical reduction similar with the seriousness of injury (Silver et al., 2012). More than 80% spinal cord patients in the world live in more than 100 creating nations there will be absence of epidemiological data in regards SCI (Rathore, 2010). SCI, either traumatic or non-traumatic in origin and the disabilities follow are of great burden to the therapeutic world to the individual affected, their family and society as whole (Berg et al. 2010).

The causes of SCI is extensive lifelong significances, epidemiological figures are of major importance in tracing its incidence, deciding upon preventive plans and planning solid resources and social services (Berg et al. 2010). Spinal cord injury become a major problem in Asia as well as Bangladesh. Day by day increase the number of SCI people as well as disability in Bangladesh (Islam et al., 2011).

The spinal cord is responsible for conducting afferent and efferent stimuli between the periphery and the brain, when this organ is injured, organic structures and functions are diminished, resulting in limitations to perform activities of daily living (Franca et al., 2011).

Resulting SCI, the ability to participate in everyday activities outside and inside the home can change and diminish. Participation in work, leisure and sporting activities greatly decreases with an additional increase in time spent on individual home based occupations such as watching TV, listening to the radio and reading potentially leading to social isolation. (Barclay et al., 2015).

Also because of loss of motor, sensory or autonomic innervation under the level of injury, persons with SCI need aid toward hazard for creating a hypoactive lifestyle. Hypo action might need incompatible impacts around physical fitness, social investment What's more ability for an aggregation (Vissers et al., 2008). Furthermore, a hypoactive lifestyle might expand the hazard from difficult forming optional wellbeing issue for example, cardiovascular diseases, stoutness and non-insulin-subordinate diabetes mellitus. This discovering of a hypoactive lifestyle previously, persons with SCI after release starting with those restoration focus may be steady Also assumes that stimulation of a physically dynamic lifestyle after release may be warranted closed near persons for SCI. However, with improve those restoration programme on persons for SCI following release for admiration to an additional physically active lifestyle, it may be essential with determine those obstructions to action for Everyday living then afterward their release (Vissers et al., 2008).

Spinal cord injury (SCI) has significant values both at a specific and societal level (WHO & ISCOS, 2013). Spinal Cord Injury (SCI) is a worldwide health problem. The annual incidence rate of SCI worldwide has been reported to be between 11.5 and 57.5 cases per million populations (Ditunno et al., 2006).

Around the world 90 million people middle of the road from spinal line damage about fluctuating seriousness for every year. Those pervasiveness about spinal cord injury will be not great known over many countries. It may be assessed that the yearly occurrence for spinal cord injury (SCI), not including the individuals who die at the scene of the accident (Spinal string damage Statistics, 2010). It is one of the most severe injuries that a person can live. It may be the most upsetting of all the illness that can befall man. Internationally frequency amount for SCI range from 10.4 to 83 case per million of population, with significant difference between different country and area (Ning et al, 2011).

The World Health Organization (WHO) statistics there are 10% of the population are disabled in Bangladesh. According to disability in Bangladesh (2002) the total figure of disability is increasing with population growth and aging. It is real phenomenon of our society that disable people are very often deprived of their social opportunity and their rights. Spinal cord injury is one of the most debilitating and devastating injuries in the

world. It is a catastrophic and devastating condition that often affecting healthy and young individual. This debilitating condition not only creates enormous physical disability but also emotionally depress the patient. It causes important changes within an individual physical and psychological relationship with their environment. Some of the changes involve the loss of motor function, inability to control bladder & bowel function and the vitiated sexual functioning. It also has an Impact on quality of life, life expectancy and economic burden (Ning et al, 2011).In Bangladesh, spinal cord lesion patients do not survive after their injury or cannot access therapeutic care (Momin, 2003). The incidence of SCI as a result from falls from a height or from falling when carrying a heavy weight on the head or road traffic accident. The most common age group (10-40 years) of patients reflects the socio-economic conditions of Bangladesh. The male: female ratio (7.5:1.0) of the patients with a SCI due to the socio-economic position and to the traditional culture of the society. More than 80% of Spinal Cord Injury (SCI) patients are men and 55 percent of SCI victims are between 16 and 30 years old (Hachinski et al., 2015). The patients of SCI are going into the different hospital for the treatment. But every hospital does not have the facilities about the SCI treatment. In Bangladesh there is only one non-government organization CRP has realized the importance of conducting a rehabilitation program for these patients through which the patients can improve their lifestyle and functional independency after disability due to SCL or SCI.

1.2 Rational

About 4.6% people are disabled due to spinal cord injury or spinal cord lesion in Bangladesh. It is a major public health problem in Bangladesh. The incidence of people having SCI in Bangladesh has been estimated as 2.5 cases per million. It became one of the most important causes of disability among the people in our country. The number of affecting people is increasing day by day due lack of awareness. Injuries that are affecting the spinal cord and complicated by physical damage are an important health problem in Bangladesh as they carry a high rate of morbidity and mortality. Barriers to activity of daily living of spinal cord injured people in community is important to know as Bangladesh is a developing country and trying to develop health care system. It is generate exact information considering detail about which causes, occupation, age, gender, diagnosis, residential area, educational level and economic level were responsible for that injury and indicate that the spinal cord injury patient who needs a specialized and comprehensive rehabilitation services to continue their activities of daily living in the community. In our country we are not conscious about spinal cord injury. Spinal cord injury can destroy of one's life and his whole family. The patient can survive with full struggle. Life is so much challenging to them. In some area people think that spinal cord injury is the curse by God. It is just an accident which destroys the whole life.

The researcher is interested to know the barriers to activity of daily living of the community living spinal cord injury people. Through this study enhances the knowledge about barriers of activity of daily living of spinal cord injured people in community and its nature. If people from all corner of the Bangladesh are aware about the barriers then it can help to minimize the barriers.

1.3 Research question

What are the barriers to participate in activity of daily livings in the community among the persons with spinal cord injury?

1.4 Objectives

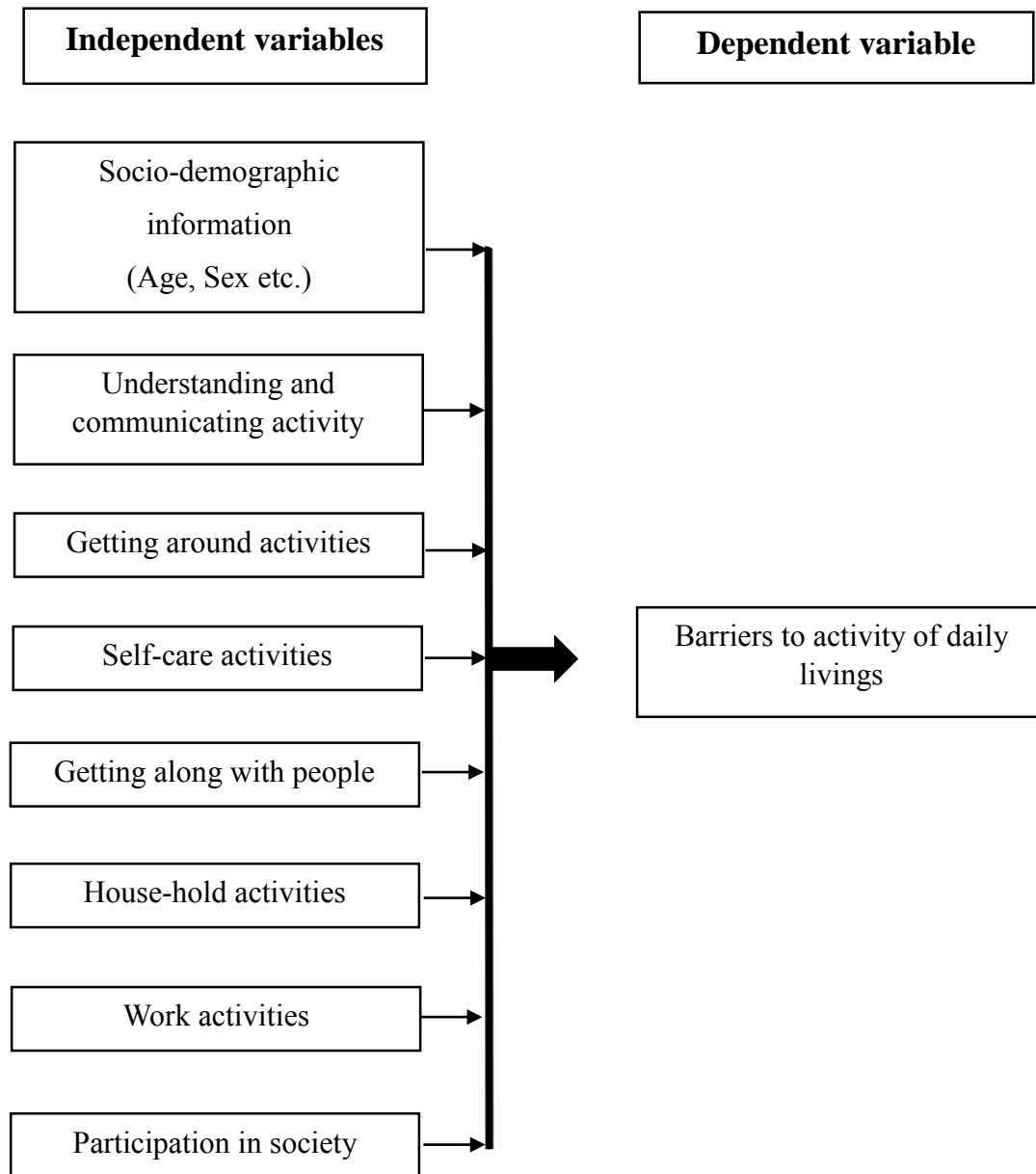
1.4.1 General objective

To find out the barriers in activity of daily living of the patient with spinal cord injury (SCI) in their own community.

1.4.2 Specific objectives

- I. To find out the socio demographic information.
- II. To find out the barriers of understanding and communicating skills.
- III. To find out the barriers of getting around activities.
- IV. To identify the barriers of self-care activities.
- V. To find out the barriers of getting along with people.
- VI. To find out the barriers in house-hold activities.
- VII. To find out the barriers of work activities.
- VIII. To identify the barriers of participation in society and the impact of health problems and family.

1.5 Conceptual framework



1.6 Operational definition

Activity

In the International Classification of Functioning, Disability and Health (ICF), the term “activity” is used in the broadest sense to capture the execution of a task or action by an individual at any level of complexity. It represents the individual’s own perspective of their functioning. Activities include simple or basic physical functions of the person as a whole (e.g. grasping or moving a leg), basic and complex mental functions (e.g. learning and applying knowledge), and collections of physical and mental activities at various levels of complexity (e.g. driving a car, interacting with people). Other examples of activities include taking care of oneself and household work activities.

Activity limitations

Difficulties an individual may have in executing activities. An activity limitation encompasses all of the ways in which the execution of the activity may be affected; for example, doing the activity with pain or discomfort; too slowly or quickly, or not at the right time and place; awkwardly or otherwise not in the manner expected. Activity limitation may range from a slight to severe deviation (in terms of quality or quantity) in doing the activity, in a manner or to the extent that is expected of people without the health condition.

Barriers

External factors in a person’s environment that, through their absence or presence, limit functioning and create disability. Includes aspects such as an inaccessible physical environment; lack of relevant assistive technology; negative attitudes of people towards disability; and services, systems and policies that are lacking or that hinder the involvement of all people with a health condition in any area of life.

Difficulty

Experiencing discomfort, pain or slowness; needing to use increased effort; or having to make changes in the way an activity is done.

Disability

An umbrella term for impairments, activity limitations and participation restrictions. Denotes the negative aspects of the interaction between an individual (with a health condition) and that individual's environmental and personal context.

Functioning

An umbrella term for body functions, body structures, activities and participation. Denotes the positive aspects of the interaction between an individual (with a health condition) and that individual's environmental and personal context.

Household activities

Activities involved with the physical, emotional, financial and psychological needs of the household or family. Includes tasks traditionally performed by men, such as managing finances, car and home repairs; caring for the outside area of the home; picking up children from school; helping with homework; and disciplining children.

Participation

A person's involvement in a life situation. Represents the societal perspective of functioning.

Participation restrictions

Problems an individual may experience in involvement in life situations. Determined by comparing an individual's participation to that which is expected of an individual without disability in that culture or society.

Spinal cord injury (SCI) has devastating consequences for the individual, their family and their community. Nevertheless, the vast majority of SCI individuals around the world are still managed through non-systematic and fragmented processes. Only a few countries, all high income, provide comprehensive systems of coordinated care from the acute phase to life-long follow-up. After returning home, individuals with SCI often experience isolation, depression and low levels of physical and psychosocial functioning. Low level of self-efficacy was found to have a detrimental effect on adjustment 6 months post discharge. At the same time, social support and particularly peer support, have been reported as crucial in adjusting to post-discharge life (Divanoglou & Georgiou, 2017).

A spinal cord injury (SCI) is a devastating event that, depend on the level and severity. The affected area mark for rehabilitative interventions is the regaining of independence and thus a good quality of life. It is now widely accepted that the central nervous system is able to recover following incomplete SCI with functional training (Hubli & Dietz, 2013).

The spinal cord injury causes serious injuries and permanent impairments due to incomplete documentation and transfers to tertiary institutions and creates a life threatening situation (Phalkey et al., 2017).

Spinal cord injury is two types such as complete and incomplete. A person loses all ability to feel and voluntarily move below the neurological level of the injury which occurs in a complete injury, on the other hand there is some functioning below the level of the injury which occurs in an incomplete injury (WebMD, 2011). Complete loss of function below the level of injury when complete spinal cord injuries occur, while incomplete spinal cord injuries are those that result in some sensation and feeling below the level of injury. The way in which the spinal cord has been damaged it dependent upon the level and degree of function (Brain and Spinal Cord, 2017).

A person with traumatic or non-traumatic SCI the potential changes are similar regarding their ability to feel, move, control their bladder and bowel and other possible problems. Traumatic SCI are at higher risk than those with non-traumatic SCI. Non-traumatic SCI patients have a better recovery in affected areas and stay for shorter periods in hospital

compared with those with a traumatic SCI who have worse prognosis and long durations. A specialized team of health care professionals are best to have periodic reviews for anyone with SCI. Prevent and treat SCI complications help to achieve the best possible outcomes for health and well-being (Spinal Hub, 2017).

Acquiring a SCI typically results in a level of physical inactivity and deconditioning that starkly contrasts with the pre-injury state, making SCI a disability that may be most in need of effective behavioral health and rehabilitation counselling interventions. Even among young and healthy persons with SCI, many are physically unable to perform essential activities of daily living, which leads to an increased risk for secondary complications as well as lower participation in the community and workforce (Krause & Saunders, 2011). When individuals with SCI are capable of engaging in work, education and leisure pursuits, a higher level of life satisfaction is noted. Therefore, physical activity and exercise has been continuously recognized as a fundamental aspect of rehabilitation strategies for individuals with SCI. Empirical studies indicate that participation in physical activity can also provide significant health benefits to injured persons, such as reducing spasticity and pain as well as improving bone mineral density, muscle endurance, subjective well-being, and physical health-related quality of life (Arbour-Nicitopoulos et al., 2013). Despite the far-extending benefits of physical activity and exercise for individuals with SCI, participation in exercise activities is frequently hampered by perceived barriers, which can arise as a function of external and internal factors. External obstacles include public attitudes, policies, procedures, inaccessible facilities or insufficient resources. Whereas, internal obstacles, which are subjectively experienced as impediments, involve limited motivation, health concerns and psychological barriers (Rimmer et al., 2017). This is confirmed by research conducted in the United States, Canada and Europe, which indicates that individuals with SCI experience numerous external and internal barriers to exercise participation (Anneken et al., 2010). However, few studies have investigated the relationship between perceived barriers and SCI severity. One study by Vissers et al. (2008) indicated that individuals with paraplegia and tetraplegia encountered more external over internal barriers to physical activity, such as limited information on community resources. Similarly, Scelza et al. (2016) reported that injury severity was a predictor of participation in exercise behaviors and that individuals with tetraplegia experienced significantly more

perceived barriers than individuals with paraplegia. These findings suggest that increased sensorimotor function and mobility associated with paraplegia (relative to tetraplegia) may facilitate greater independence and a wider range of choices for physical activity, thus reducing perceived barriers (Keegan et al., 2014).

Many rehabilitation professionals only encounter individuals with SCI in the clinical setting, limiting their insight into the social context of disability. The shortened, post injury in patient rehabilitation stay makes it especially difficult to develop an understanding of the environments to which people return after discharge from acute rehabilitation. A holistic view of rehabilitation seeks to look beyond the physical impairments of the individual and address the social and environmental factors that create disabling situations. The best people to identify these factors are individuals with disabilities who encounter these barriers or supports daily. SCI is a life-altering event that can result in varying degrees of paralysis depending on the level and completeness of injury. Statistics relative to the epidemiology of SCI demonstrate a consistent trend showing that SCI typically occurs in the potentially most productive years of one's life, making the need for the implementation of programs facilitating community participation for survivors of SCI even more compelling. Presently, 87.9% of all people with SCI who are discharged return to private non-institutional residences in the community (Newman, 2017).

Barriers other than the physical also exist. Health professionals often focus on a person's disability vs. the individual as one who needs counseling on appropriate benefits of a healthy lifestyle. Many may think that because their doctors are not encouraging them to participate in fitness programs that they may not be benefited. This may also affect the emotional well-being of the individual. Physical activity is a crucial component to the overall well-being and that barriers to physical fitness affect the mental and physical states of those with disabilities (Scelza et al., 2016). Specifically, depression and reduced quality of life have been associated with difficulties returning to work or school, adapting to new social roles, and gaining general individual independence (Silver et al., 2012).

The incidence of spinal cord injury (SCI) in low-income countries is four times that in high-income countries. In most low-income countries, people who sustain a SCI are discharged home with little access to support services. Many die within a few years of discharge. We have recently shown that 19% of wheelchair-dependent patients discharged

from a large SCI unit in Bangladesh die within 2 years of discharge. The median (interquartile) age in this sample was 32 years (25–44) and the most common cause of death was sepsis due to pressure ulcers. There are no directly comparable data from high-income countries but death in the first 2 years following discharge in those <40 years of age is unusual (Hossain et al., 2016).

There are more than 250,000 people in the U.S. currently living with spinal cord injury and approximately 12,000 new cases are reported each year discharged from acute rehabilitation without the optimal functional skills necessary to successfully return home and to the community (Silver et al., 2012).

People with spinal cord injury (SCI) face many environmental barriers to community participation. Approximately 255,000 people in the United States have a spinal cord injury. Research goals outlined by the National Institute of Disability and Rehabilitation Research, as well as Healthy People 2015, encourage the identification, evaluation, and elimination of barriers in the environment that inhibit participation in community activities by people with disabilities (Newman, 2017).

In Australia a study showed that most devastating medical conditions are Spinal cord injury (SCI) or damage. In all facets of human functioning and existence it causes life changing consequences. The incidence of Traumatic SCI a recent review reported that worldwide varied between 10-4 and 83 per million per year. About 15–17 cases per million per year over the past decade the age-adjusted incidence rate of TSCI in adults aged, 15 years has remained at and older surviving to reach hospital. In currently 11.9 cases per million adults per year is the incidence in Victoria in Australia (New & Sundararajan, 2008).

The retrospective study of Japan showed that the annual incidence of spinal column injuries ranges from 19-88/100,000. 15-50 per million per year is the incidence of spinal cord injury. 480-813 per million is the prevalence of SCI. In Pakistan exact incidence of these injuries in this region is not known though there are few reports on demographics of spinal injuries (Qureshi et al., 2010).

Patients who have been suffering from spinal cord injury often face life threatening complications so they need appropriate management and specialized rehabilitation. The patients of SCI are going into the different hospital for the treatment but they do not have enough facilities for their treatment. In Bangladesh there is only one non-government

organization is Centre for the Rehabilitation of the Paralyzed, which has conducting a rehabilitation program for the last 32 years through which the patients can improve their life style (Islam et al., 2011).

The nongovernmental special organization, CRP managed the patients with multi and inters disciplinary approach which emphasis on the development of community based 3 rehabilitation programs. There are sufficient stuffs that work there sincerely and supported by short term volunteers from home to abroad (Hoque et al., 1999). For developing effective program and polices the study will help to further enhancing our knowledge about SCI in Bangladesh. In developing countries, advance care ICU and proper, accurate and long term management and rehabilitation have the survival rate and life expectancy which is available only in the non-government organization (Islam et al., 2011).

Beginning immediately after injury, individuals are immersed with a series of physical, emotional, and social challenges. Rehabilitation offers those newly injured persons the benefit of individualized functional training before return to the community, as well as continued consultation and education after post-discharge. The seven major categories of barriers included mobility and equipment issues; environmental and home assistance; insurance coverage; transportation; need for knowledge; activities of daily living (ADL) and other (Silver et al., 2012).

Physical activity can have a positive impact upon health and well-being for people with spinal cord injury (SCI). Despite these benefits, people with SCI are within the most physically inactive segment of society that comprises disabled people. Being physically active can not only prevent secondary health conditions among people with SCI, but has the capability to improve overall health, well-being and quality of life (QOL) (Martin Ginis et al., 2015). Despite the benefits of physical activity (PA), people with SCI are within the most inactive segment of society that comprises disabled people (Letts et al., 2011). Therefore health and PA promotion needs to be taken seriously within this population (Williams et al., 2014).

As both the number of people and life expectancy increase for people with spinal cord injuries (SCIs), many health concerns related to aging start to play a significant role in their overall health. Estimates for the incidence of new SCI remain approximately 11,000/yr., and the prevalence is approximately 230,000 and growing. Although still below that of the

general population, improved emergent and long-term management techniques have increased life expectancies after SCI. Accordingly, mitigating the effects of aging with lifestyle changes have become more prominent.

Health promotion for those with disabilities, including those with SCI, has historically been directed at primary prevention of disability rather than prevention of secondary conditions; however, the benefits of exercise in improving outcomes after SCI are increasingly recognized. Exercise has been shown to improve functional capacity, bone density in upper limbs, endurance, muscle strength, pain and psychological well-being and to reduce stress. Despite these numerous benefits, there are physiological, psychological, and environmental barriers to exercise that can impede participation in exercise after SCI, thereby increasing health risks associated with inactivity and a sedentary lifestyle (Scelza et al., 2016).

The fact that people with SCI face environmental barriers to community participation is well established. The existence of barriers in the environment promotes discrimination, prevents participation, restricts choice, and frustrates attempts at independence of those with SCI. The increased emotional distress often associated with SCI may not necessarily stem from the individual's limitations, but rather from encounters with barriers in the environment that inhibit participation in life activities and access to necessary services. Commonly cited reasons for lack of community participation by those with SCI are physical environmental barriers such as the presence of stairs and lack of curb cuts in sidewalks. Decreased mobility significantly impairs one's ability to participate fully in social settings. Social barriers to community participation after SCI include public attitudes related to those with disability and the associated discrimination that often occurs (Newman, 2017).

The participants reported a large number of barriers to physical activity in the current situation and shortly after discharge on the open questions regarding the different items. In the current situation, the 3 most important barriers (largest product of prevalence and impact) were problems with the accessibility of stores and buildings (ICF: Environmental factor), physical health problems and mental health problems (ICF: Body Functions and Structures). Problems with the accessibility of stores and buildings also had the largest prevalence. Shortly after discharge, the 3 most important barriers were emotional distress

(ICF: Body Functions and Structures), problems with self-care (ICF: Activities), and mental health problems (ICF: Body Functions and Structures). Problems with self-care have the largest prevalence. Emotional distress and mental health problems also have a relatively high impact on the level of everyday physical activity shortly after discharge. In general, the importance of the barriers are greater shortly after discharge; only for problems with work activities and for a bad acceptance, the importance are greater in the current situation (Vissers et al., 2008).

To guide work, implemented a framework known as the International Classification of Functioning, Disability and Health (ICF). In particular, the conceptualization of barriers in the present study used three main components proposed by the ICF including: Body Functions and Structures; Activities and Participation, including components of capacity and performance; and Environmental Factors with measurements of barriers and facilitators. The following is a first step in preliminary classification of barriers experienced by newly injured persons with SCI using ICF framework. Establishing an improved understanding of these barriers allows a more targeted approach to improving health and community reintegration in persons with life-long disability (Silver et al., 2012).

Several scientific disciplines have incorporated the concept that environmental features differentially influence the expression of behaviors of people with biological differences. Variability within a species provides the diversity required for natural selection by environmental factors, both physical and social. For example, in behavior genetics, the differential expression of schizophrenia rests upon both the genetic makeup of the person and the stressors that person experiences in their environments. Knowing the stressors for the general population may explain very little if anything about the expression of schizophrenia. In a similar fashion, knowing the barriers to participating in major life activities for people without disabilities and with disabilities are unlikely to differentiate those factors in the environment that influence the participation of specific subjects of humans who live with different capabilities may be the physical or cognitive. Human ecological models hold that the interactions between levels of personal competencies and different levels of environmental press can be used to predict adaptive and maladaptive behaviors. Recent shifts in the conceptualization of disability posit that the expression of disability changes with nature of the environment as well as the type and severity of the

impairment. This change has created a need for reliable, valid measures of the environment. But salient aspects of the environment are difficult to select for study and measure because most environmental features will have little, if any, influence on the expression of disability. The same environmental features may have different effects for people with differing types and severity of impairments. The World Health Organization (WHO) published a classification scheme, International Classification of Functioning, Disability and Health (ICF) that includes a component for classifying environmental factors. The development of this classification system began in 1992 and has provided the impetus for the development of measures of environmental factors pertinent to what people do in the context of the living environment. One example of a subjective measure of the interaction of person and environment is the Measure of the Quality of the Environment (MQE) – Version 2.0. A list of 85 environment features are scored on a 7 point scale ranging from major facilitator (p3) to major barrier to social participation. The environmental factors are classified into six categories: support and attitudes of family; income, job and income security; governmental and public services; physical environment and accessibility; technology; and equal opportunity and political orientations. The question used for each environmental factor is ‘Indicate to what extent the following factors or situations influence your daily activities and social roles by taking into account your abilities and personal limits’. The content validity is based on the guidance of rehabilitation professionals. The usability of the MQE was developed by testing the MQE on people with disabilities. Test retest results found agreement for 60% to 85% of the items. The environmental features are characterized by accessibility, accommodation resource availability, social support, and equality. The MQE assessments provide a guide to those environmental factors that need to be removed to reduce restriction in participation (obstacles) or added to increase social participation (facilitators). The MQE was developed for use with a heterogeneous group of people with different disabling conditions for participation in activities that take place in generic settings. Although the MQE provides guidance for features of the environment that apply to participation restrictions for many individuals with disabilities, the specificity often important to homogeneous groups (e.g., people with mobility limitations) interacting in different environments is not addressed by this measure. Further, the frequency of encountering environmental features is not assessed. The Craig Hospital Inventory of

Environmental Factors (CHIEF) which includes items that were based on comments made at mixed focus groups of health care professionals, administrators of service programs, academics and people with disabilities. The CHIEF items are scored for the frequency of encountering environmental barriers and the impact of the barriers on participation. The CHIEF includes five barrier factors: (i) attitude and support; (ii) services and assistance; (iii) physical and structural; (iv) policy; and (v) work and school. The internal consistency and stability tests of the CHIEF are moderate to high. The CHIEF provides a measure of general environmental barriers that can be used for population surveys comparing people with and without disabilities. The questions used in the CHIEF are inclusive of many aspects of an environmental domain. For example, one question on the barriers or restrictions to participation includes temperature, terrain and climate while a second question includes lighting, noise and crowds. The influence of each environmental feature is not distinct from the other features within the same question. Thus, the specificity of environmental features that may influence participation in major life activities for people with one disabling condition is limited since the item development was based on a heterogeneous group of disabling conditions. In addition, specific environmental facilitators to participation for people with different impairments are not included in the CHIEF. Thus, use of the CHIEF for studying within group variability and planning relevant interventions may face some limitations (Gray et al., 2008).

The world health organization disability assessment schedule 2.0 (WHODAS 2.0), published by the world health organization (WHO) in 2010, is a generic assessment tool for health and disability and for producing standardized disability levels (Ustun et al., 2010). The WHODAS 2.0 serves as basis for comparing disability data among countries. It treats all disorders at par in assessing the levels of functioning and exhibits strong validity, reliability and cross-cultural applicability in over 30 languages (Ustun et al., 2010).

SCI is the most severe types of injuries, however there is little evidence to address the difference between this two types of patients in terms of functional and community outcomes. Therefore, the purpose of this study is to compare these two injury groups of functioning and disability by using the WHODAS 2.0; and to clarify the factors that contribute to disability. According to international classification of functioning (ICF)

disability is an umbrella term for impairments, activity limitations and participation restrictions. It denotes the negative aspects of the interactions between an individual (with a health condition) and that individual's contextual factors (Environmental and personal factors). Simply activity limitation means difficulties of individuals may have in executing activities. Precisely, an activity limitation encompasses all of the ways in which the execution of the activity of daily living may be affected; for example doing the activity with pain or discomfort; too slow or quickly, or not at the right time and place; awkwardly or otherwise not in the manner expected. Activity limitation may range from a slight to severe deviation (In terms of quality or quantity) in doing activity, in a manner or to the extent that is expected of people without the health condition (Ustun et al., 2010).

3.1 Study design

A cross sectional study was chosen to conduct the study and as appropriate to achieve the aims. Cross-sectional study is a descriptive study in which disease and exposure status is measured simultaneously in a given population. Cross-sectional studies can be thought of as providing a "snapshot" of the frequency and characteristics of a disease in a population at a particular point in time (Environmental Health Investigations branch, 2009). All the measurements on each person are made at one point in time. The most important advantage of cross sectional study is quick and cheap. As there is no follow up, less resource are required to run the study. The quantitative methods are appropriate if the issue is known about relatively simple.

3.2 Target population and sample population

Target population was people with spinal cord injury in community in Bangladesh and sample population was spinal cord injury people of Savar Upozilla and Dhamrai Upozilla, Dhaka.

3.3 Study setting

Spinal cord injury people living in the community of Savar Upozila and Dhamrai Upozilla of Dhaka in Bangladesh was chosen for the study.

3.4 Data collection method and tools

The face to face interview technique was used to collect data. For this the materials to successfully complete the interview session and collected the valuable data from the participants were used such as- question paper (WHODAS II 36 item Bengali version questioner) , consent form, pen, file, clip board etc.

3.5 Sample size

The equation of sample size calculation are given below

$$n = \left\{ \frac{Z \left(1 - \frac{\alpha}{2}\right)}{d} \right\}^2 \times pq$$

Here,

$$Z \left(1 - \frac{\alpha}{2}\right) = 1.96$$

P= 0.662 (here, p = prevalence) (Van der Zee et al., 2014)

$$q = 1-p$$

$$= 1- 0.662$$

$$= 0.338$$

$$d= 0.05$$

The actual sample size for this study was calculated as 344.

Actual sample size for the study was 344. As it is an educational research and the study is cross-sectional survey the number of the study sample was 50.

3.6 Sampling technique

After taking permission from the ethical body of BHPI, the investigator had to find out the people with spinal cord injury who lived in community. Those participants had fulfilled inclusion criteria as they are the participants of the study. The investigator had chosen Savar and Dhamrai Upazilla of Dhaka as a study area for collecting data. Researcher has called the participants by mobile phoning and meet with them. The investigator explained every participant about the research aim and objectives. The investigator had taken sampling from those who willingly participated in this research. The investigator had selected them through purposive sampling that are available in between the days of data collection. Only 50 numbers of participants have found physically and collected data through face to face interview.

A purposive sample is a non-probability sample that is selected based on characteristics of a population and the objective of the study. Purposive sampling is that a researcher do not simply study whoever is available, but use his/her judgment to select a sample that he/she believes based on prior information, will provide the data need. In this type of sampling

the sample is statistically representative. Therefore, those people who fulfilled the inclusion criteria, they were the samples of the study and 50 people had selected to participate in the study.

3.7.1 Inclusion criteria

- People who have been discharged from a rehabilitation center and living in the community at least 1 year, after completing rehabilitation.
- Age more than 18 years as WHODAS 2.0 is not administer able bellow 18 years of age (Ustun et al., 2010).

3.7.2 Exclusion criteria

- Unwillingness.
- Mentally unstable

3.8 Data analysis

Data was entered into Statistical Package for Social Science (SPSS) software Version 20 and excel spread sheet. Data also analyzed by SPSS software. WHODAS 2.0 Bengali questionnaire was analyzed and discussed about the demographic factors such as age, gender, occupation marital status etc. WHODAS 2.0 Bengali questionnaire was also discussed about understanding and communication, mobility, Self-care, getting along with people, household activities, work activities and participation. In WHODAS II, there are 36 questions. According WHODAS 2.0 guideline, there are two basic options for computing the summary scores for the WHODAS 2.0 short and full versions– simple and complex. In “simple scoring”, the scores assigned to each of the items – “none” (1), “mild” (2) “moderate” (3), “severe” (4) and “extreme” (5) – are summed. The more complex method of scoring is called “item-response-theory” (IRT) based scoring; it takes into account multiple levels of difficulty for each WHODAS 2.0 item. the overall summary score, the WHODAS 2.0 item scores could be used in two ways: dichotomous (yes/no) scale – indicating that the respondent has a difficulty in a particular domain of functioning, with the response scale for “mild”, “moderate”, “severe” and “extreme” all merged into a single

positive coding; and polytomous (multiple-level) scale – which keeps the level of severity as it is; that is, as “mild”, “moderate”, “severe” or “extreme” (Ustun et al., 2010).

The investigator collected the information about barriers of ADLs. Beside, researcher found out the results by SPSS software-version 20 that analyzed in excel and showed in column. Results were discussed and presented through figures (Pie diagram and Bar diagram) and tables as applicable.

3.9 Ethical Consideration

The proposal was submitted and prepared to the Institutional Review Board (IRB) and Bangladesh Health Profession Institute (BHPI) and approval was obtained from the board. The World Health Organization (WHO) and Bangladesh Medical Research Council (BMRC) guideline was followed to conduct the study. A written/verbal consent was taken from participants before collecting of data. During the course of the study, the samples who were interested in the study had given consent forms and the purpose of the research and the consent form were explained to them verbally. The study did not interfere with their jobs. They were informed that their participation was fully voluntary and they had the right to withdraw or discontinue from the research at any time. They were also informed that confidentiality was maintained regarding their information. It should be assured the participant that his or her name or address would not be used. The participants were also informed that the research result would not be harmful for them.

The cross sectional study was conducted to achieve the research objectives. The main objective of the study was to find out the barriers in activity of daily living among the persons with spinal cord injury (SCI) in their own community. According to WHODAS II (Socio-demographic information, cognition, mobility, self-care, getting around with people, household activity, work activity and participation and total score) all variables are calculated through using an SPSS 20.0 version software program. The collected data were calculated as percentages and presented by using graph and table charts.

1. Socio-demographic Information

1.1 Sex:

In total 50 participant was selected, most of them ware male (n=39, 78%), and female (n=11, 22%).

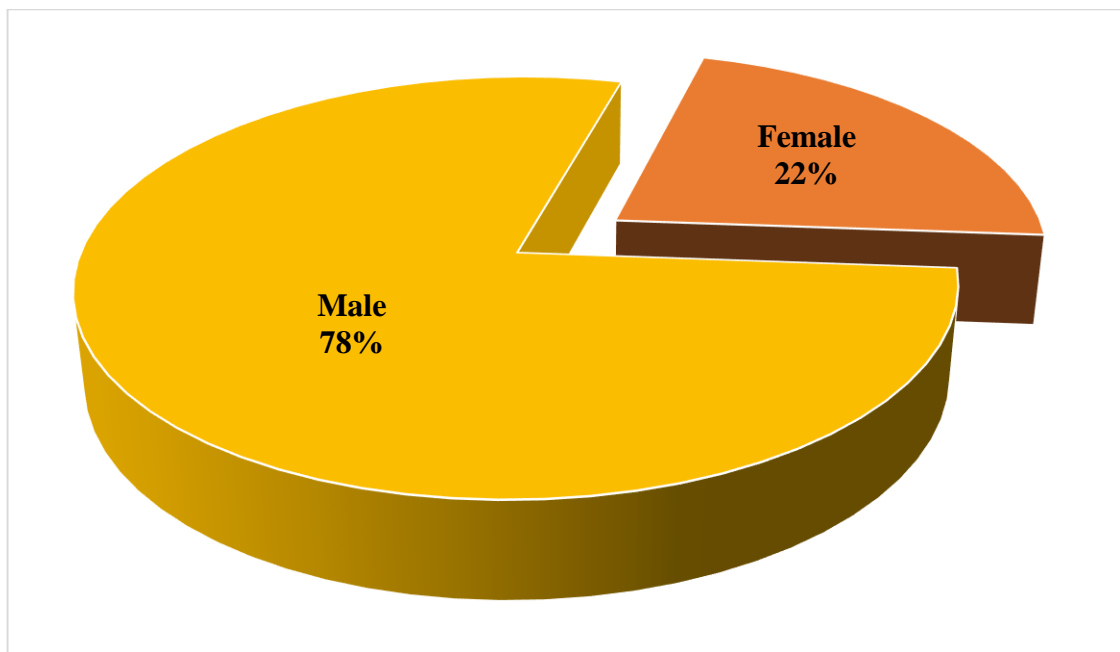


Figure-1: Sex of the participants

1.2 Age frequency of the participants:

In this study, the age range was 20-75, the mean age of the participants was 40.28 and median was 39. Standard deviation 13.16.

Table-1: Age of the participants

Title	Number
Mean	41.70
Median	37.50
Standard deviation (SD)	14.83

1.3 Educational status:

Educational status among 50 participants were illiterate 16% (n=8), primary 28% (n=14), Secondary n=24 (48%), Undergraduate 8% (n=4).

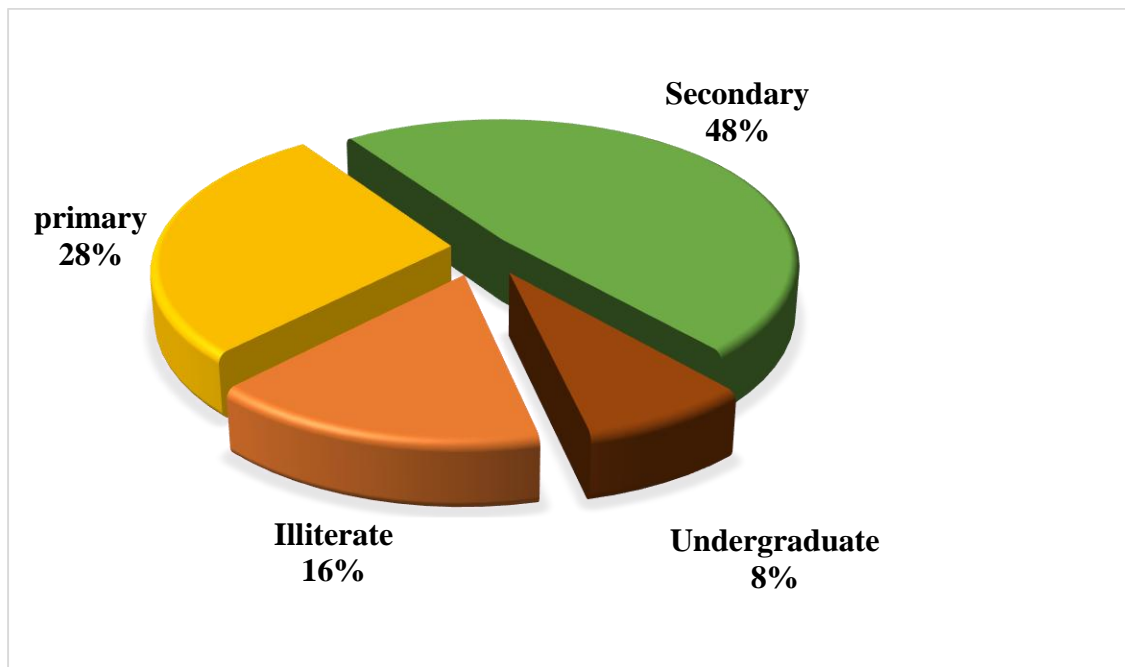


Figure-2: Educational Status

1.4 Marital status:

Among 50 Participants of the study, 66% (n=33) were married, 24% (n=12) were unmarried and 10% (n=5) were others (divorced, cohabiting and separated).

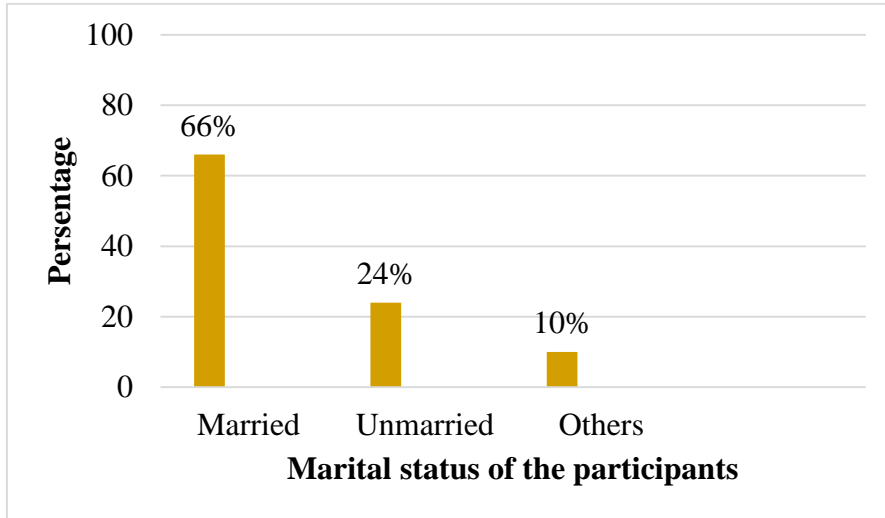


Figure-3: Marital status of the participants

1.5 Working status of the participants:

Among 50 participants the frequency of occupation were 56% (n=28) participants were employed and 44% (n=22) were unemployed.

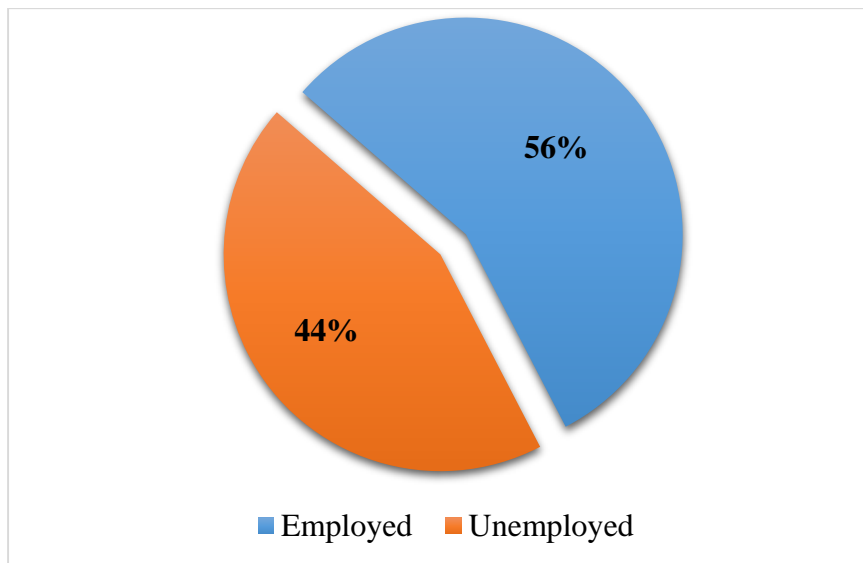


Figure-4: Working status of the participants

2. Cognition

2.1 Concentrating on doing something for ten minutes:

Among 50 participants the frequency show that 72% participants were no problem, 20% were mild problem, 2% were moderate problem, 4% were severe problem and 2% were extreme problem to concentrate about 10 minutes.

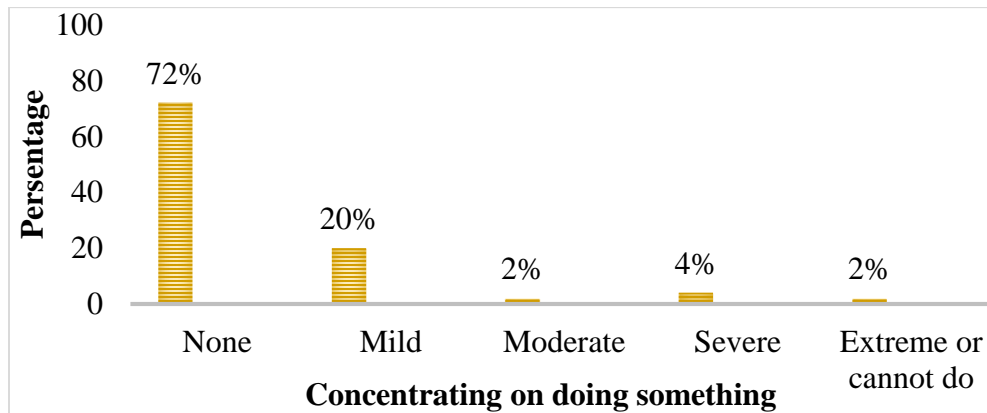


Figure-5: Concentrating on doing something for ten minutes

2.2 Remember to do important things

Among 50 participants 52% participants were no problem, 40% were mild problem, 2% were moderate problem, 4% were severe problem and 2% were extreme problem to remember to do important.

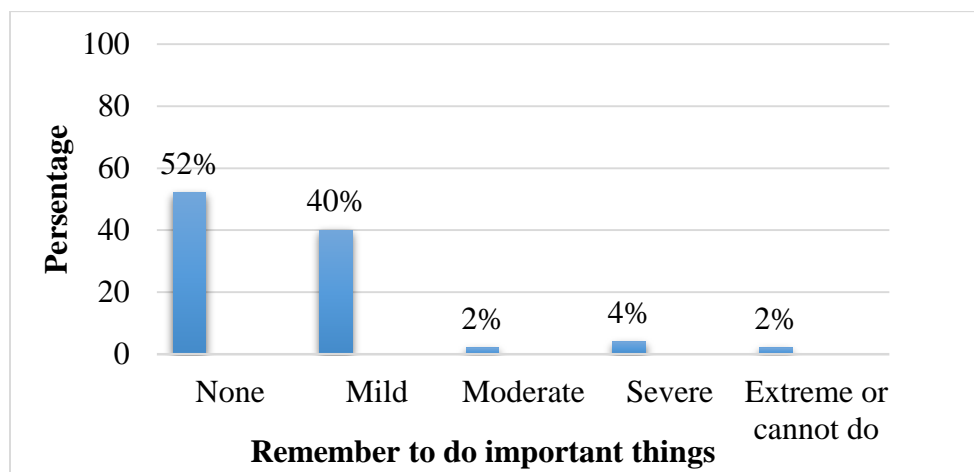


Figure-6: Remember to do important things

2.3 Finding solutions to solving problems in daily life

32% participants were no problem, 36% were mild problem, 24% were moderate problem, 6% were severe problem and 2% were extreme problem to find out the solution to solve their daily problem.

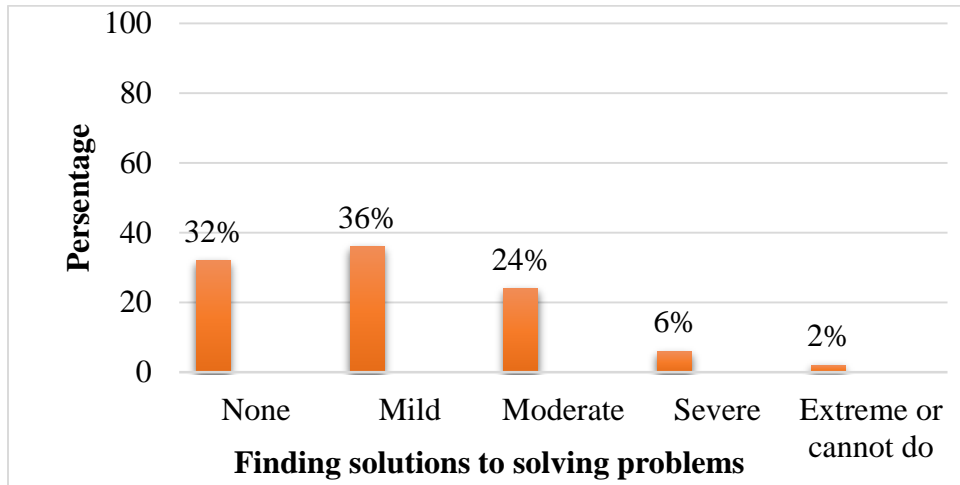


Figure-7: Finding solutions to solving problems in daily life

2.4 Learning a new task

Study focus that 16% participants were no problem, 42% were mild problem, 30% were moderate problem, 8% were severe problem and 4% were extreme problem to learning a new task.

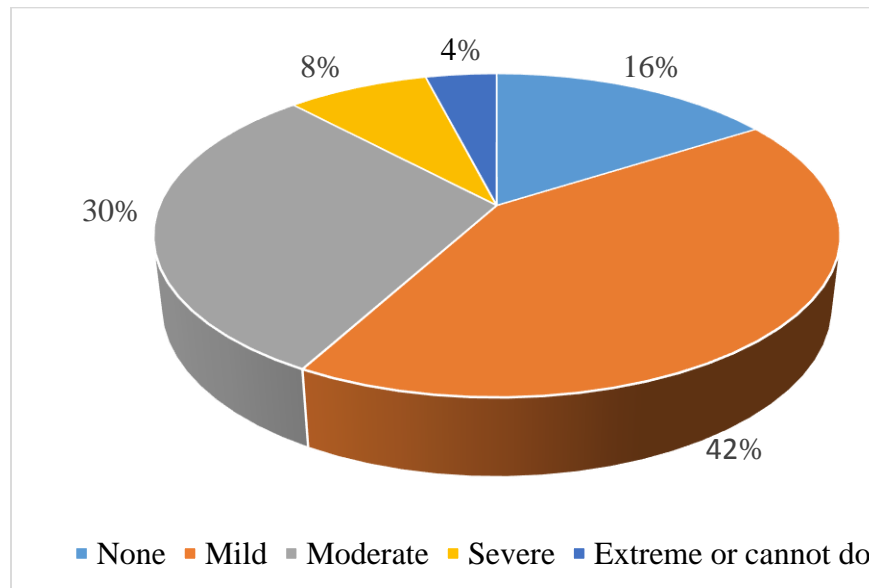


Figure-8: Learning a new task

2.5 Understanding what people say

Study focus 68% participants were no problem, 30% were mild and moderate problem and 2% were severe and extreme problem with understanding.

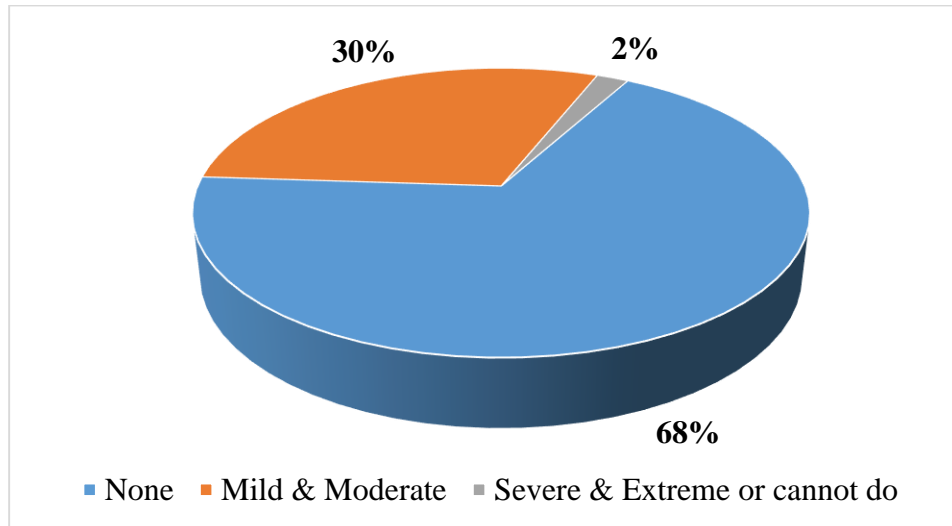


Figure-9: Understanding what people say

2.6 Starting & maintaining a conversation

Study focus 68% participants were no problem, 30% were mild and moderate problem and 2% were severe and extreme problem with starting and maintaining conversation.

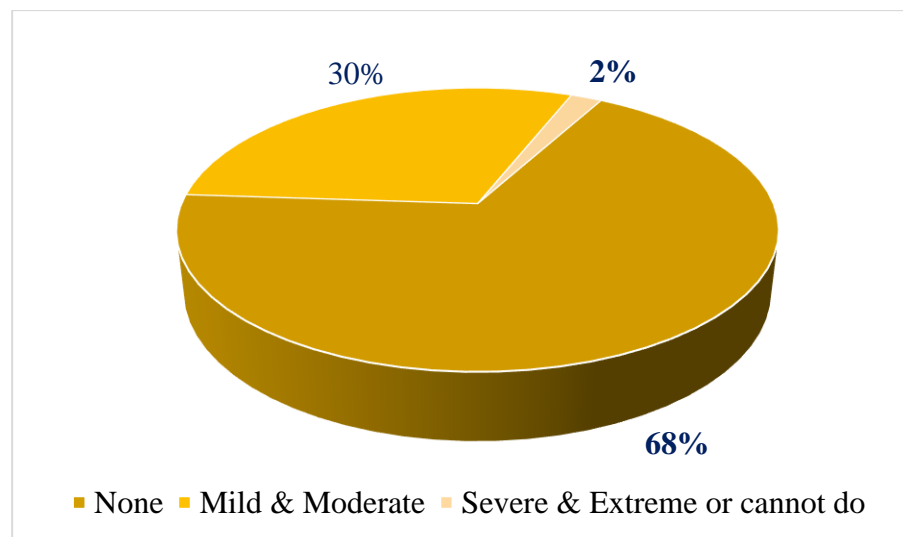


Figure-10: Starting & maintaining a conversation

3. Mobility

3.1 Standing for long periods such as 30 minutes

Among 50 participants, 8% participants were no problem, 8% were mild problem, 8% were moderate problem, 28% were severe problem and 48% were extreme problem with Standing for long period.

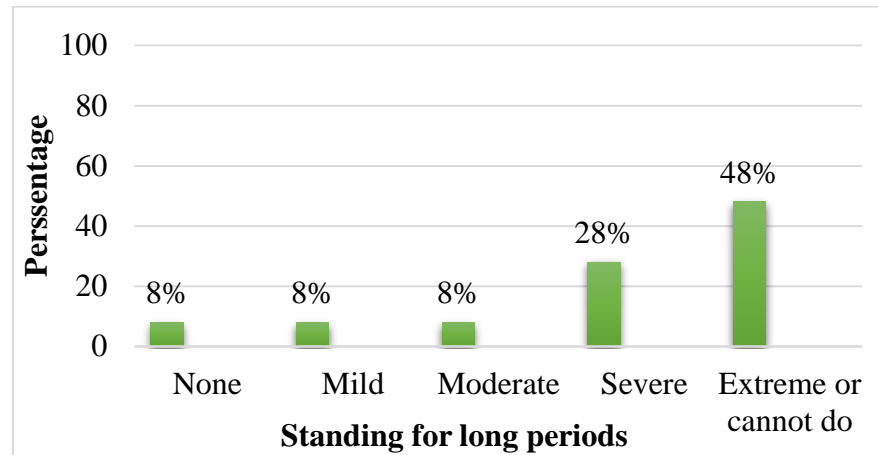


Figure-11: Standing for long periods such as 30 minutes

3.2 Standing up from sitting down

Study focus 8% participants were no problem, 26% were mild and moderate problem and 66% were severe and extreme problem with Standing up.

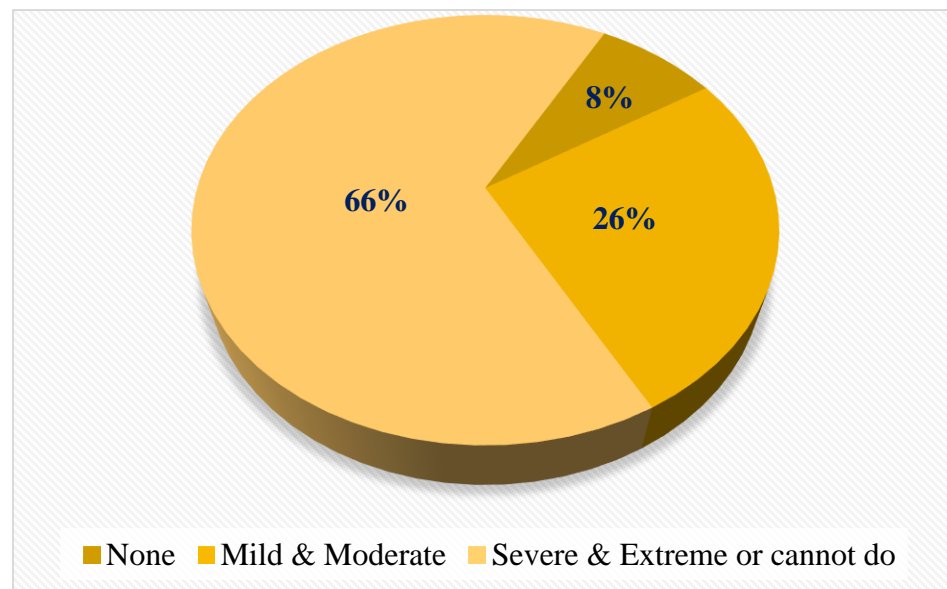


Figure-12: Standing up from sitting down

3.3 Moving around inside home

Study focus 8% participants were no problem, 34% were mild and moderate problem and 58% were severe and extreme problem with moving insight their home.

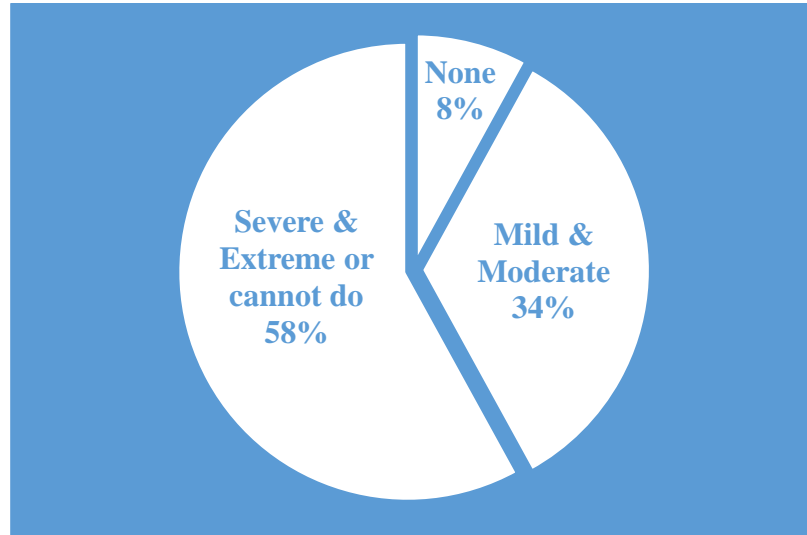


Figure-13: Moving around inside home

3.4 Getting out of home

Among 50 participants, 6% participants were no problem, 14% were mild problem, 20% were moderate problem, 26% were severe problem and 34% were extreme problem with Getting out of home.

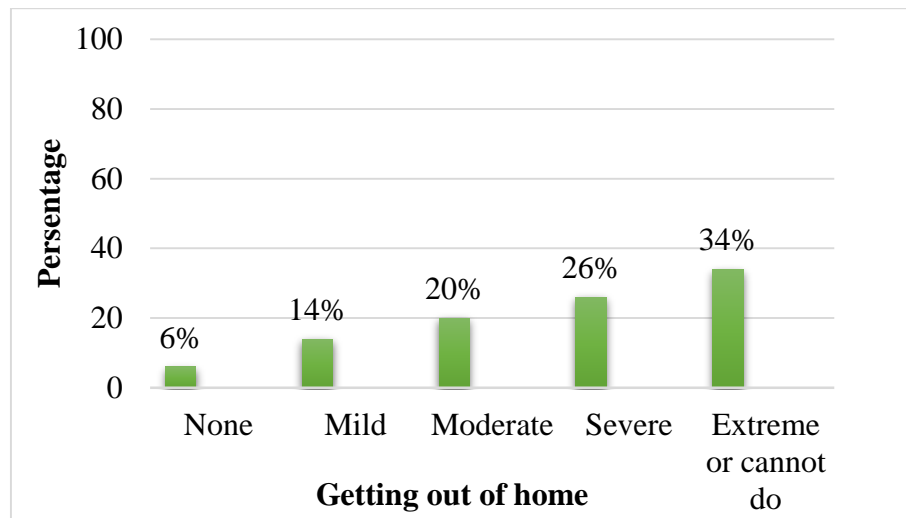


Figure-14: Getting out of home

3.5 Walking a long distance

Among 50 participants, 78% participants were no problem, 10% were mild problem, 4% were moderate problem, 4% were severe problem and 4% were extreme problem with walking a long distance.

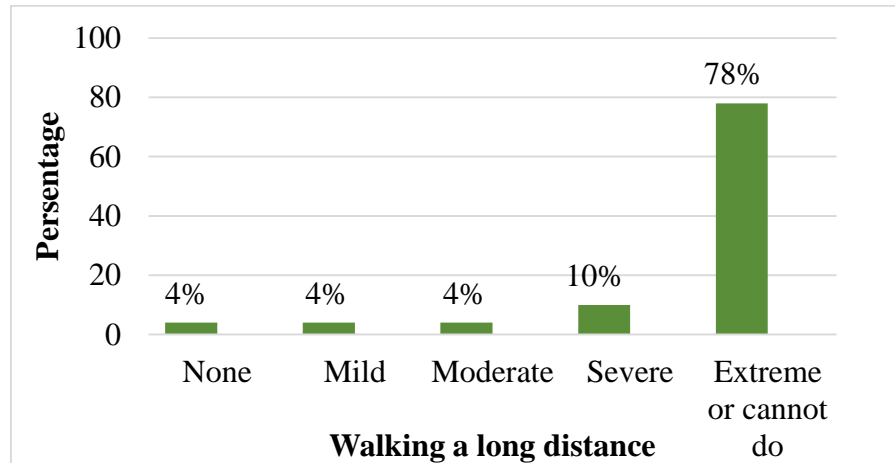


Figure-15: Walking a long distance

4. Self-care activities

4.1 Washing whole body

Study focus 18% participants were no problem, 18% were mild and moderate problem and 64% were severe and extreme problem with washing their own body.

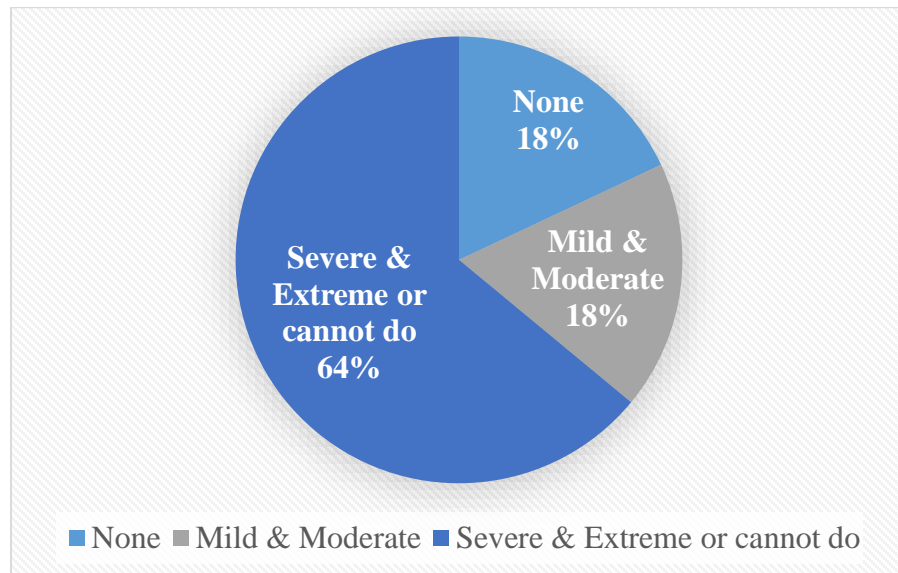


Figure-16: Washing whole body

4.2 Getting dressed

20% participants were no problem, 10% were mild problem, 18% were moderate problem, 24% were severe problem and 28% were extreme problem with Getting dressed.

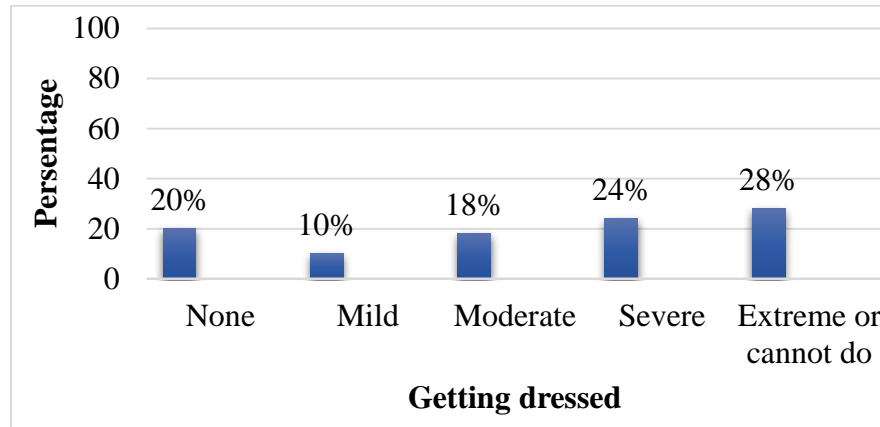


Figure-17: Getting dressed

4.3 Eating

Study shows that 54% participants were no problem, 40% were mild and moderate problem and 6% were severe and extreme problem with eating.

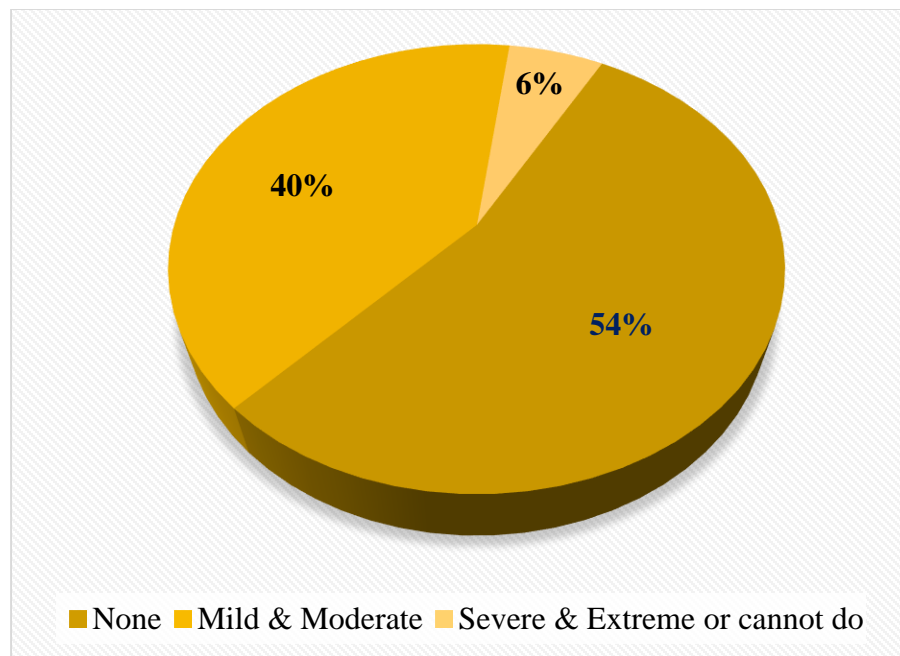


Figure-18: Eating

4.4 Staying by self for a few days

12% participants were no problem, 52% were mild and moderate problem and 36% were severe and extreme problem with staying along.

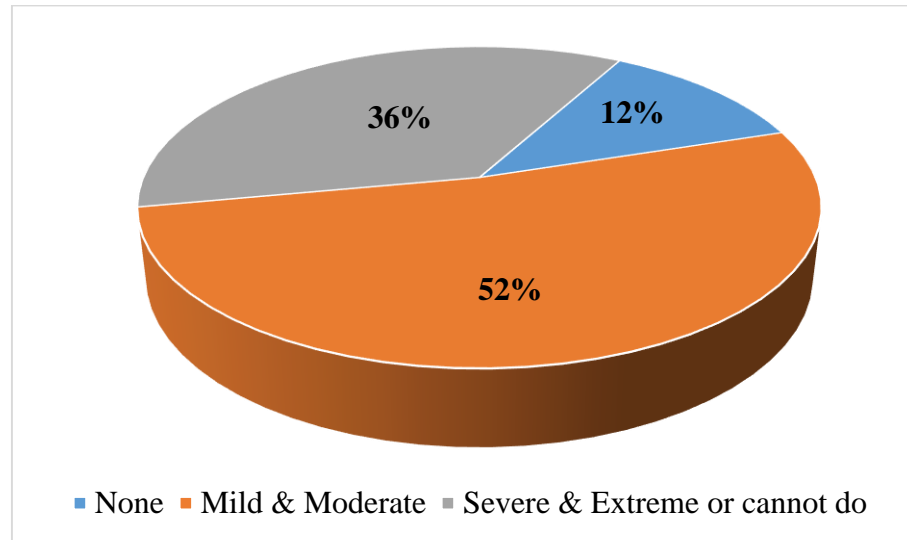


Figure-19: Staying by self for a few days

5. Getting along with people

5.1 Dealing with people

Study focus 70% participants were no problem, 26% were mild and moderate problem and 4% were severe and extreme problem with Dealing with people.

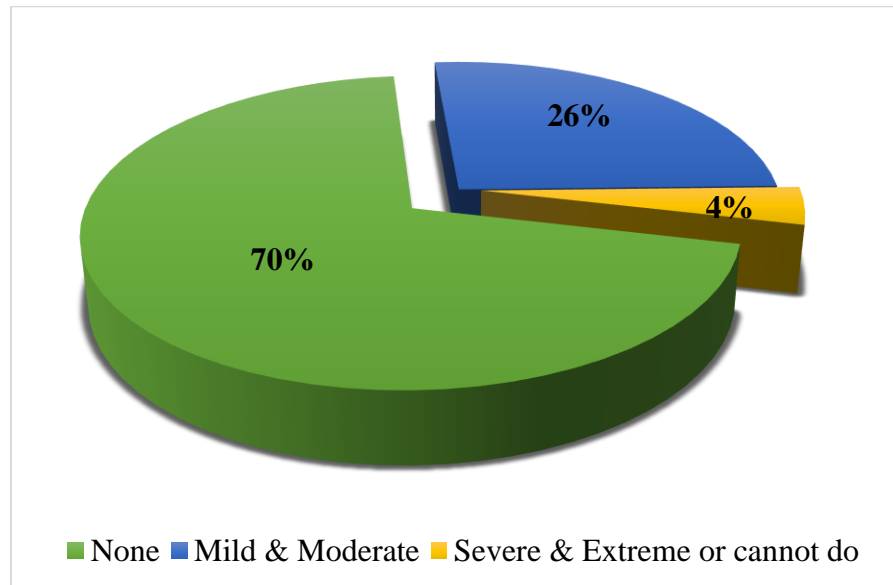


Figure-20: Dealing with people

5.2 Maintaining a friendship

Here 38% participants were no problem, 56% were mild and moderate problem and 6% were severe and extreme problem with maintaining friendship.

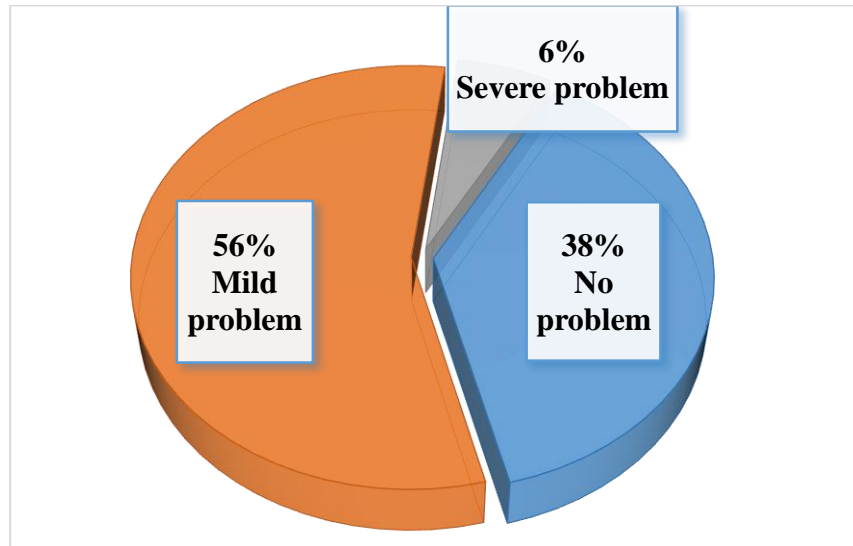


Figure-21: Maintaining a friendship

5.3 Getting along with people who are close

70% participants were no problem, 28% were mild and moderate problem and 2% were severe and extreme problem with getting along with people.

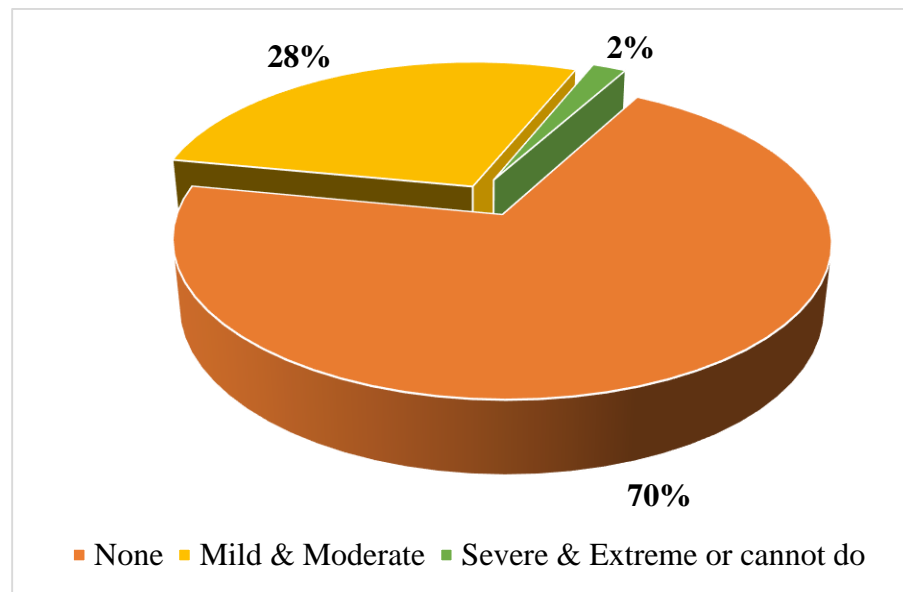


Figure-22: Getting along with people who are close

5.4 Making new friends

Among 50 participants 38% participants were no problem, 36% were mild problem, 22% were moderate problem, 2% were severe problem and 2% were extreme problem with making new friends.

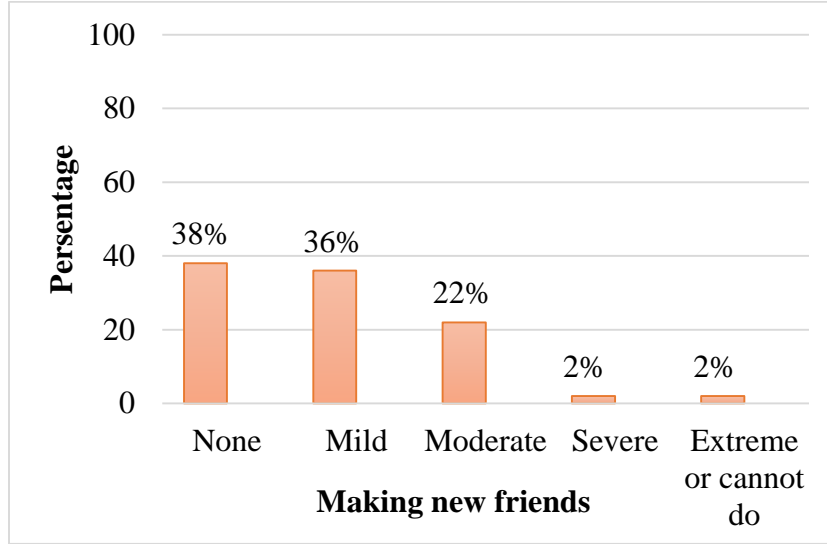


Figure-23: Making new friends

5.5 Sexual activities

Study focus 12% participants were no problem, 38% were mild and moderate problem and 50% were severe and extreme problem with Sexual activities.

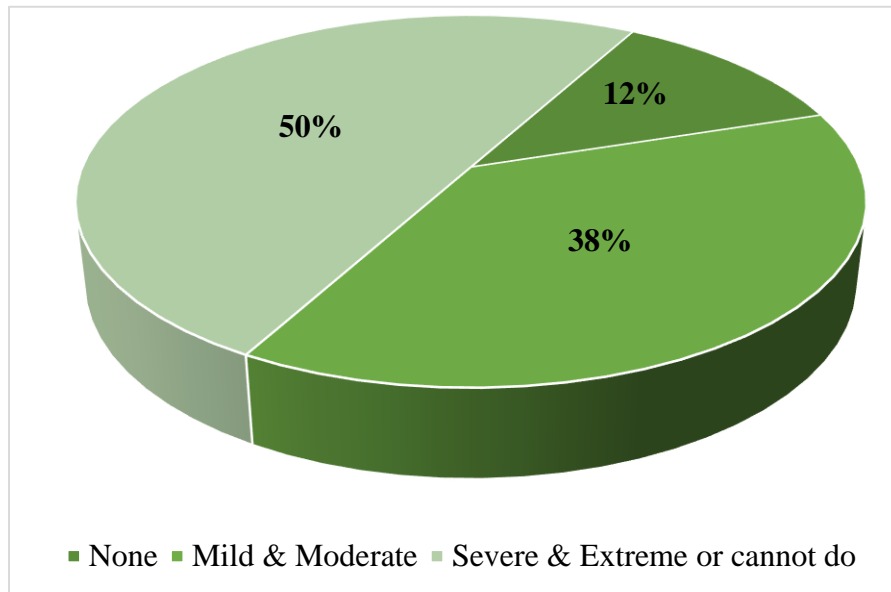


Figure-24: Sexual activities

6. Household activities

6.1 Taking care of household responsibilities

In this study, 16% participants were no problem, 62% were mild and moderate problem and 22% were severe and extreme problem with Taking care of household responsibilities.

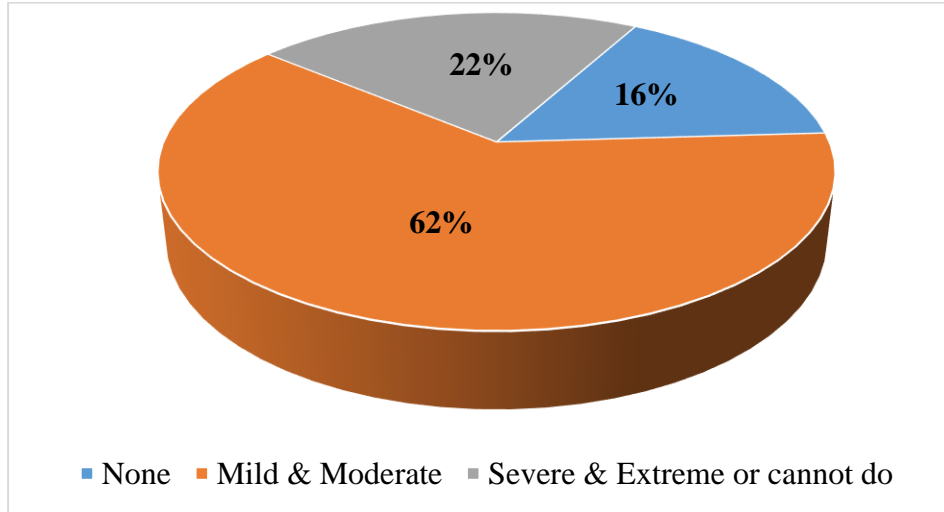


Figure-25: Taking care of household responsibilities

6.2 Doing most important household task

Study focus 4% participants were no problem, 64% were mild and moderate problem and 32% were severe and extreme problem with done most important household task.

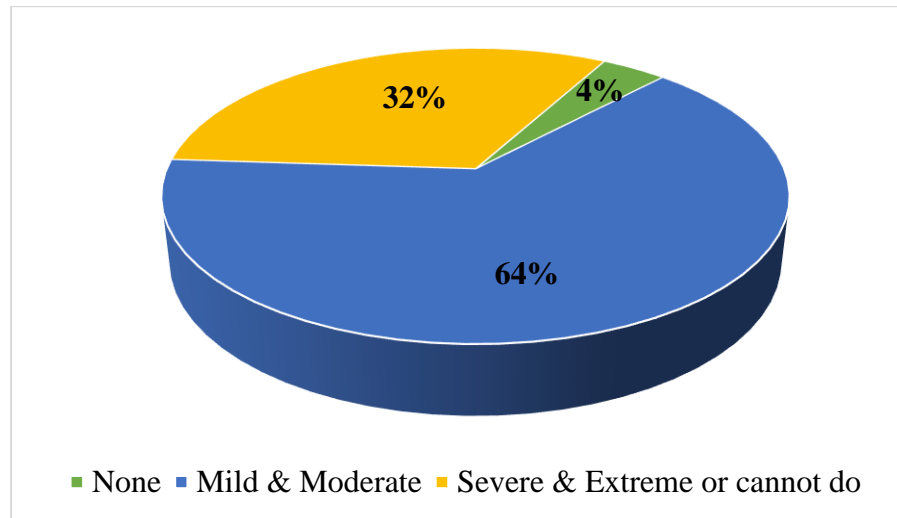


Figure-26: Doing most important household task

6.3 Getting all the household work

Among 50 participants 16% participants were no problem, 20% were mild problem, 34% were moderate problem, 20% were severe problem and 10% were extreme problem with getting all the household work.

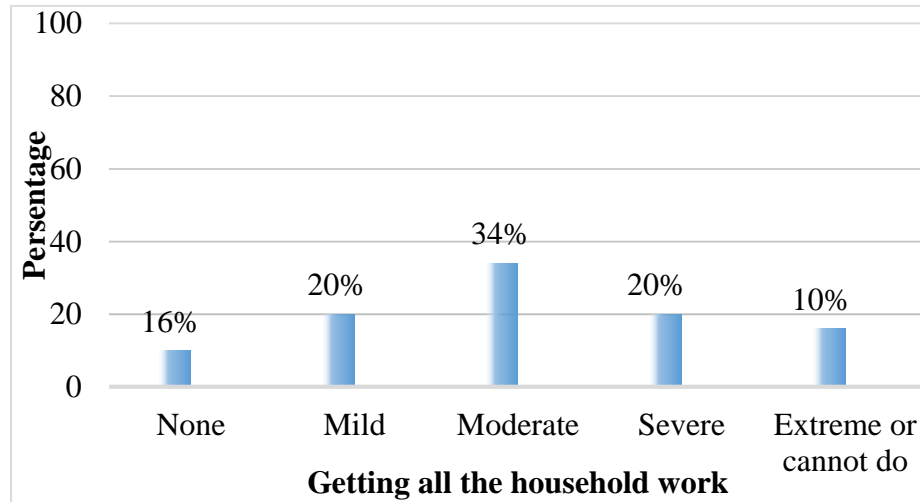


Figure-27: Getting all the household work

6.4 Household work done as quickly

Here, 4% participants were no problem, 26% were mild and moderate problem and 70% were severe and extreme problem with Household work done as quickly.

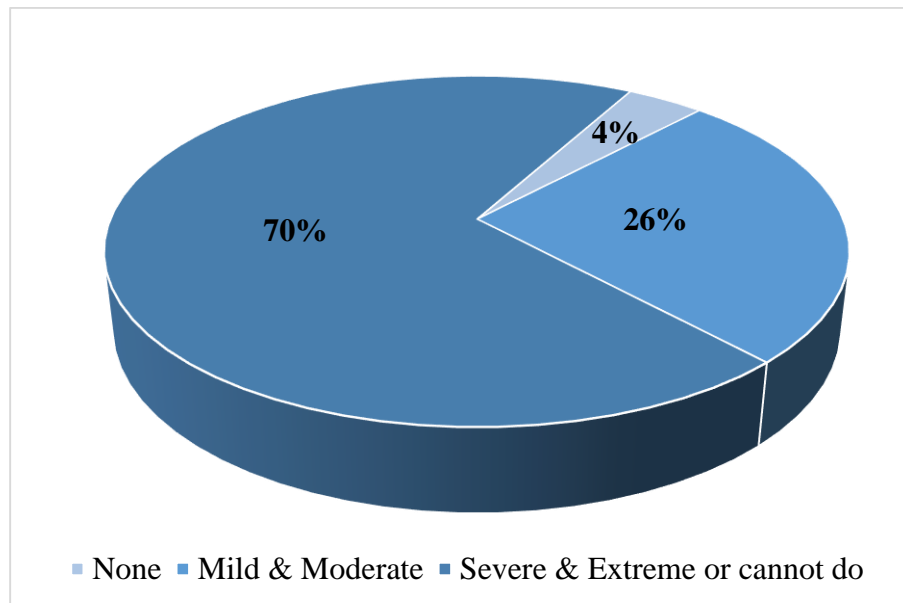


Figure-28: Household work done as quickly

7. Work activities

7.1 Daily work

Study focus 8% participants were no problem, 26% were mild and moderate problem and 66% were severe and extreme problem with Daily work.

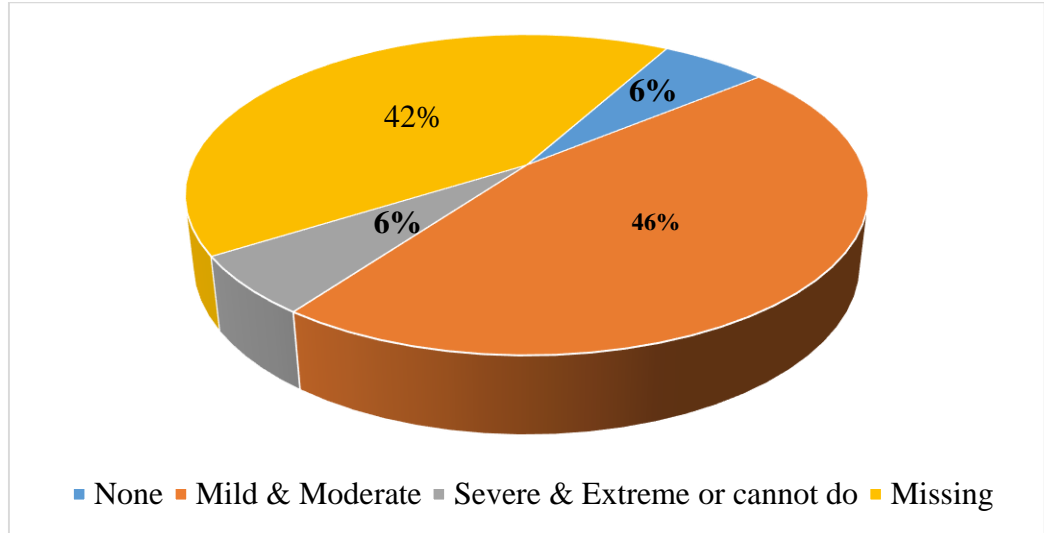


Figure-29: Daily work

7.2 Doing most important work as well

20% participants were no problem, 10% were mild problem, 18% were moderate problem, 24% were severe problem and 28% were extreme problem with doing most important work as well.

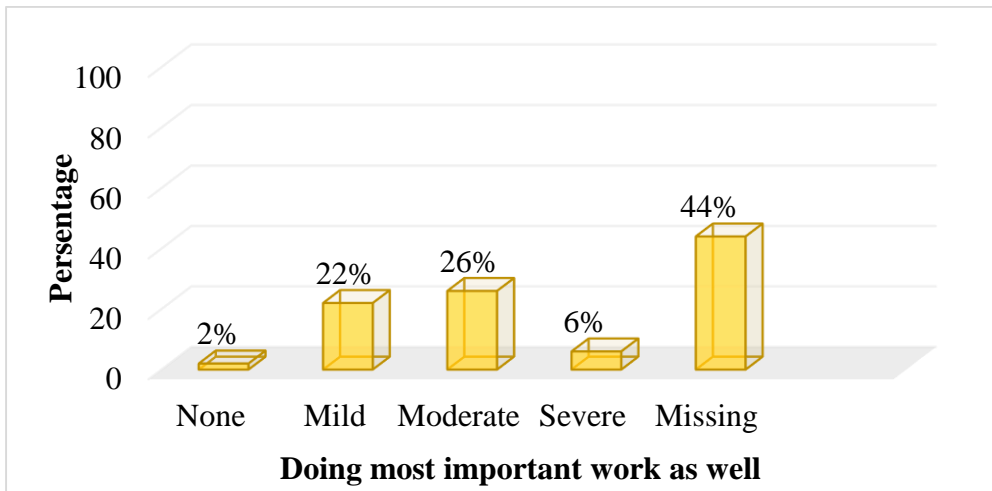


Figure-30: Doing most important work as well

7.3 Getting all the work done that needed

20% participants were no problem, 10% were mild problem, 18% were moderate problem, 24% were severe problem and 28% were extreme problem with getting all the work done that needed.

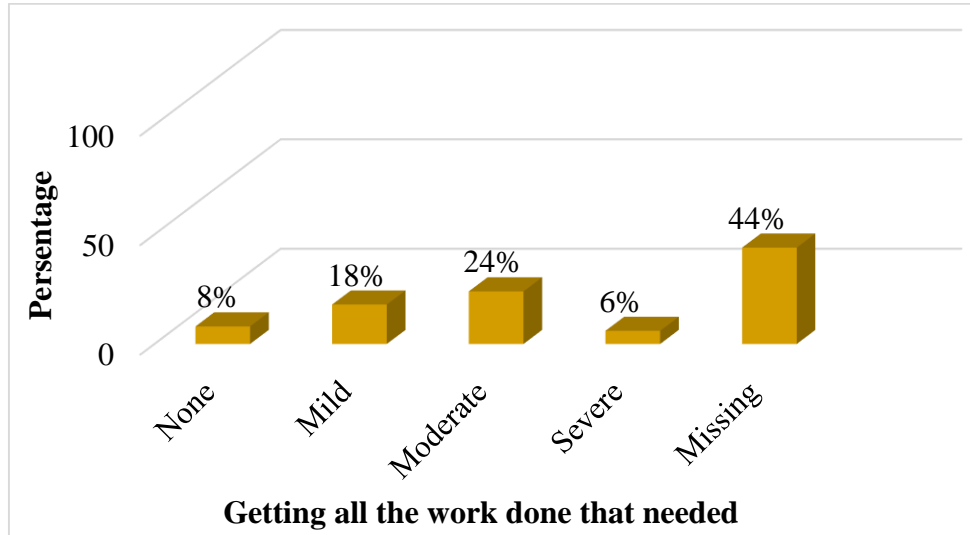


Figure-31: Getting all the work done that needed

7.4 Work done as quickly

20% participants were no problem, 10% were mild problem, 18% were moderate problem, 24% were severe problem and 28% were extreme problem with work done as quickly.

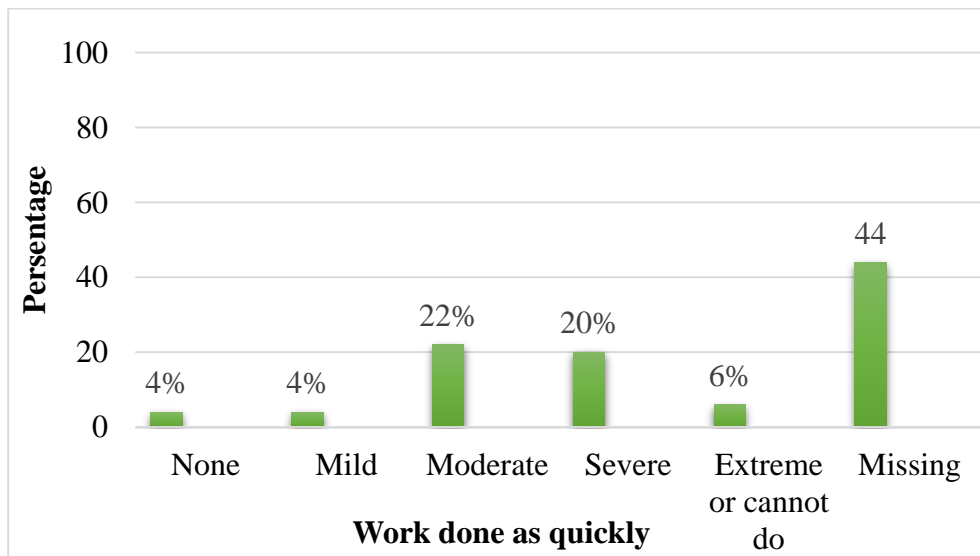


Figure-32: Work done as quickly

8. Participation

8.1 Problem to joining in community activities

Study focus 6% participants were no problem, 64% were mild and moderate problem and 30% were severe and extreme Problem to joining in community activities.

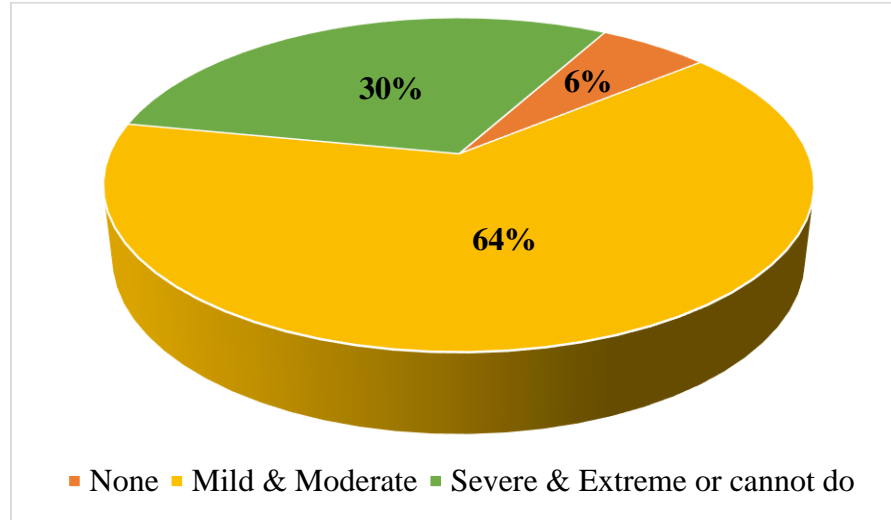


Figure-33: Problem to joining in community activities

8.2 Problem because of barriers

6% participants were no problem, 34% were mild problem, 50% were moderate problem, 4% were severe problem and 6% were extreme problem with Problem because of barriers.

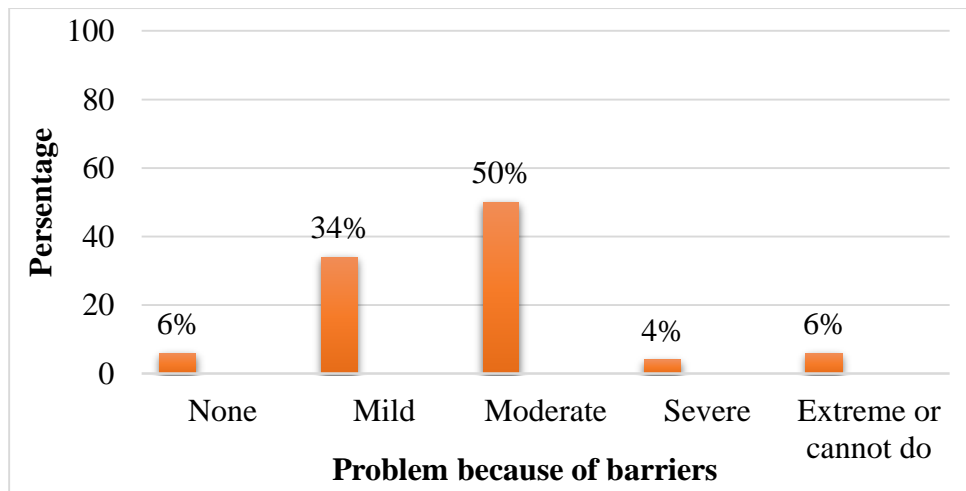


Figure-34: Problem because of barriers

8.3 Problem to living with dignity cause of attitude

Study focus 4% participants were no problem, 88% were mild and moderate problem and 8% were severe and extreme problem with Dealing with people Problem to living with dignity cause of attitude.

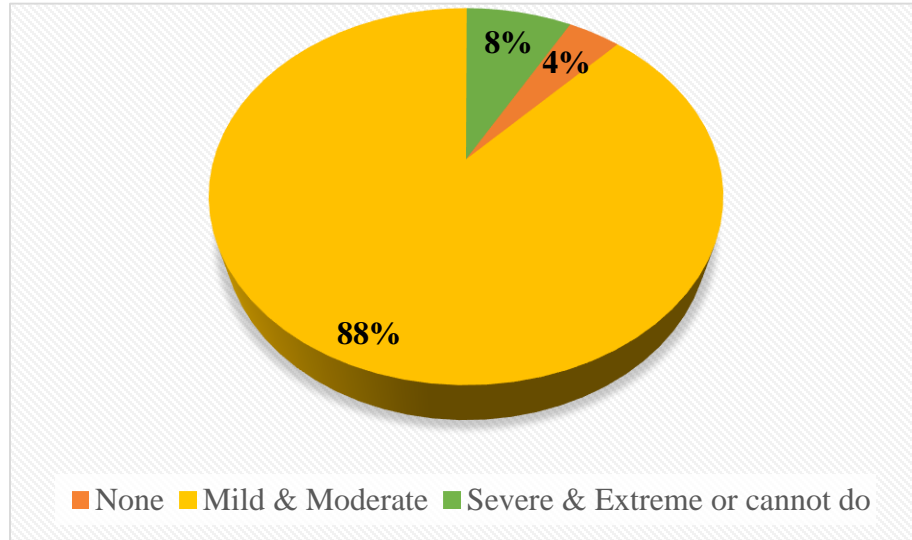


Figure-35: Problem to living with dignity cause of attitude

8.4 Time spends on health condition

Research showed that 6% participants were no problem, 40% were mild problem, 48% were moderate problem, 4% were severe problem and 2% were extreme problem with Time spends on health condition.

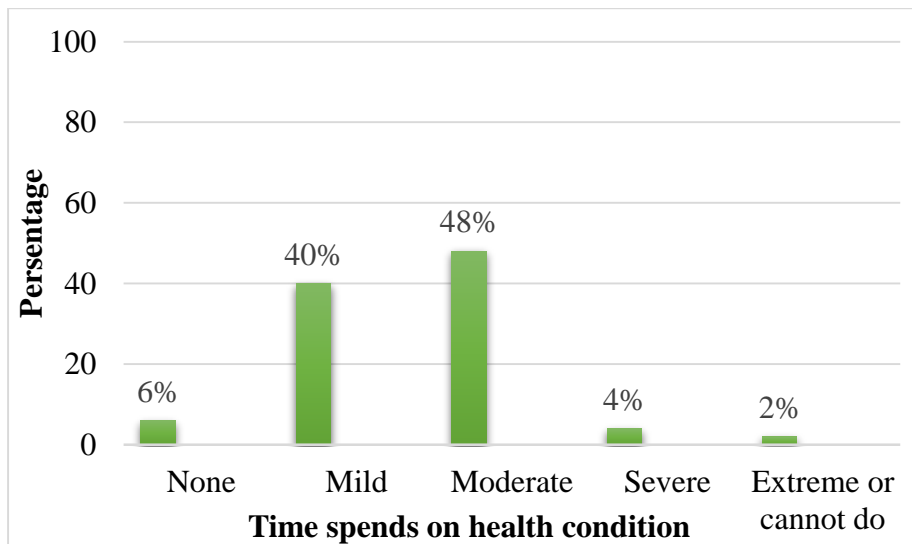


Figure-36: Time spends on health condition

8.5 Emotionally Depressed

8% participants were no problem, 34% were mild problem, 46% were moderate problem, 8% were severe problem and 4% were extreme problem to affecting emotionally depressed.

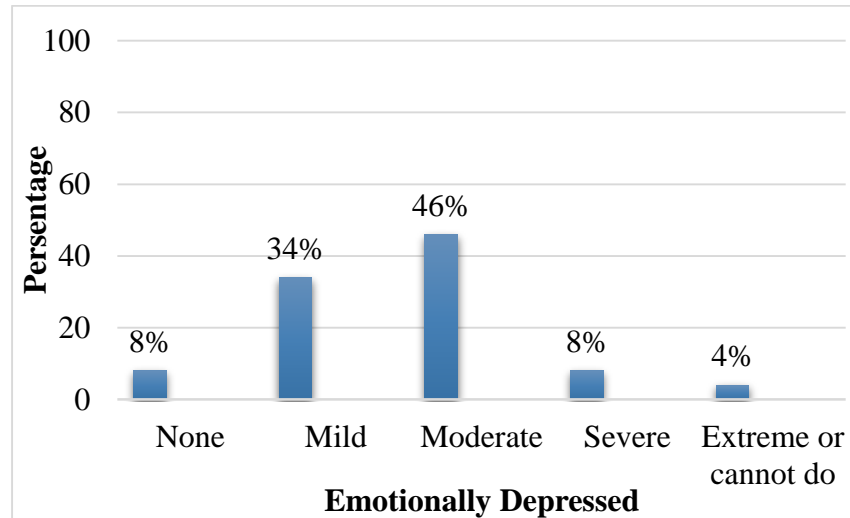


Figure-37: Emotionally Depressed

8.6 Problem with financial resources of family

Here 50% participant's mild and moderate problem and other 50% participants were severe and extreme problem with financial resources of family.

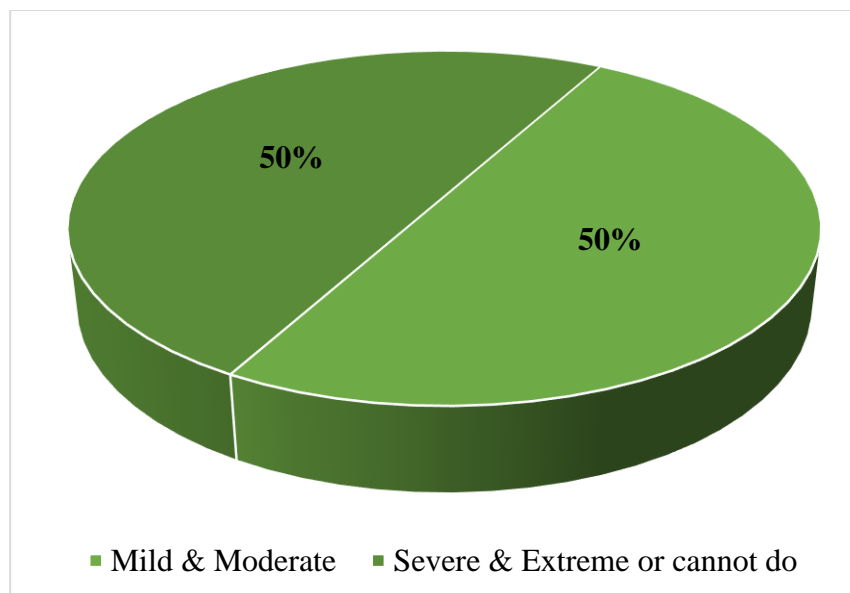


Figure-38: Problem with financial resources of family

8.7 Problem with family

Study focus 8% participants were mild problem, 52% were moderate problem and 40% were severe Problem because of them, their family were facing trable.

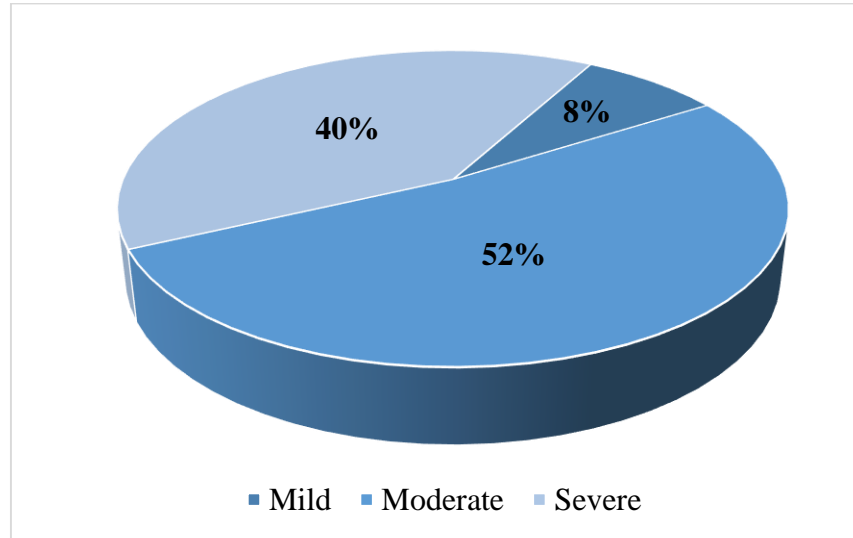


Figure-39: Problem with family

8.8 Time for relaxation of pleasure

Study focus on 4% participants were no problem, 88% were mild and moderate problem and 8% were severe and extreme problem with them to time for relaxation of pleasure.

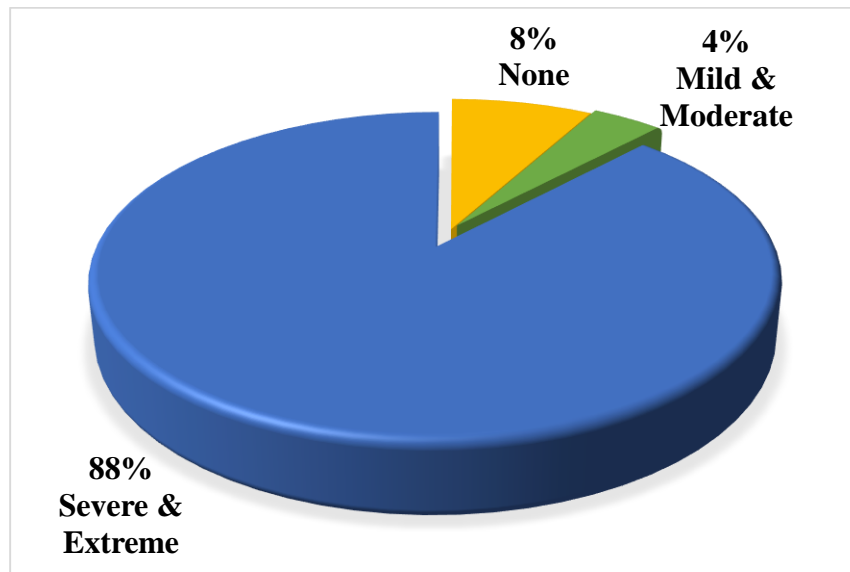


Figure-40: Time for relaxation of pleasure

The purpose of the study was to describe relationship between socio-demographic (i.e., age, sex, marital status, education, occupation) and different aspects of activity of daily livings according to WHODAS 2.0 (i.e., cognition, mobility, self-care, getting along with other people, household activities, work activities, participation and total score) in people with spinal cord injury (SCI).

In this study age of the participants (mean \pm SD) was 41.70 ± 14.83 years, in another study in Sydney Australia De Wolf et al. (2012) reported sample (n=63) was comparatively younger (34.7 ± 14.6 years). But in another two study in Canada, sample age (n=145) (mean=SD) was 48.7 ± 17.4 approximately similar comparing with this study (Noonan et al., 2010).

Here, 78% (n=39) were male and 22% (n=11) were female. Approximately similar findings has been reported in the study of De Wolf et al. (2012) as male were 81% (n=51) and female were 19% (n=12). In Canada in two study, male were 79% (n=115) and female were 21% (n=31) (Noonan et al., 2010).

In this study 24% (n=12) were unmarried and 66% (n=33) were married and 10% (n=5) lead cohabiting, divorced or separated life. In Canada 31% (n=45) were unmarried, 55% (n=80) lead cohabiting life and 14% (n=20) were divorced (Noonan et al., 2010).

There were 16% (n=8) participants Illiterate, 28% (n=14) participants education level were primary, 48% (n=24) participants education level were secondary and 8% (n= 4) were undergraduate. In Canadian study. 43% (n=62) participants were complete education from high school, 49% (n=71) complete from college education or under graduation and 8% (n=12) were graduate (Noonan et al., 2010).

Among 50 sample in this study, 56% (n=28) were employed and 44% (n=22) were unemployed (i.e., due to health reason or due to other reason not related to health). In Australian study De Wolf et al (2012) reported 33% (n=21) were paid employer or volunteer and 67% (n=42) were unemployed whom has been reported as 'not working'. In

Canadian study 32% (n=46) were employed (full or part time) 7% (n=10) were unemployed, 32% (n=46) were volunteer or retired and 26% (n=38) were unable to work (Noonan et al., 2010).

Calculation of WHODAS 2.0 total score and domain scores provided information about the self-rated activity and participation limitations of adults with Spinal Cord Injury. The World Health Organization Disability Assessment Scale II (WHODAS II) is an instrument that measures everyday functioning across 6 domains that correspond with the activities and participation components of the International Classification of Functioning, Disability and Health (WHO, 2014). In WHODAS 2.0 in each domain and total scores, converting the summary score into a metric ranging from 0 to 100 (where 0 = no disability; 100 = full disability) (WHO, 2001). In this study, the greatest limitation was found in the domains of 'mobility' (mean \pm SD: 76.88 \pm 30.38), De Wolf et al. (2012) also reported similar findings (mean \pm SD: 48.8 \pm 19.8) but in another study in Canada the greatest limitation was found in 'Getting along' domain (mean \pm SD:52.07 \pm 31.66). In this study least limitation was found in 'cognition' domain (mean \pm SD: 21.40 \pm 23.95). In Australia De Wolf et al. (2012) and in Canada Noonan et al. (2010) also reported least score in same domain 'cognition' the mean \pm SD were 10.0 \pm 18.20 and 13 .03 \pm 17 .27 respectively.

In case of other domains, mean \pm SD were 55.20 \pm 35.47 for 'Self-care', 30.50 \pm 27.42 for 'getting along', 61.20 \pm 29.20 for 'household activity', and 46.43 \pm 23.14 for 'work or school activity' 50.25 \pm 20.50 for 'participation' and 47.59 \pm 25.88 for total score.

In Australian study mean \pm SD were 31.01 \pm 37.50 for 'Self-care', 19.06 \pm 18.30 for 'getting along', 35.60 \pm 26.80 for 'household activity', for 'work or school activity', 35.80 \pm 21.60 for 'participation' and 34.60 \pm 19.10 for total score. (De Wolf et al., 2012).

In Canadian study mean \pm SD were 27.03 \pm 29.86 for 'Self-care', 22.70 \pm 21.39 for 'getting along', 50.73 \pm 26.76 for 'mobility', 29.84 \pm 26.44 for 'work or school activity', 36.01 \pm 21.12 for 'participation' and 34.76 \pm 14.98 for 'total score' (Noonan et al., 2010).

Regarding this study as below there were some situational limitation or barriers to consider the result of the study: The limitation of this study was small sample size. It was taken only 50 samples and could not able to collect samples by random selection because, there were not adequate subjects and study period was short. The one of major limitation was time. To conduct the research project on this topic, time period was very limited. As the study period was short so the adequate number of sample could not arrange for the study. In this study, could not differentiation of complete and incomplete SCI patient. This study cannot be generalized to the whole population as the sample size was very small and findings need to be confirmed with larger studies. There was little evidence to support the result of this project in the context of Bangladesh. Time and resource were limited which have a great deal of impact on the study.

The researcher was a 4th year B.Sc. in physiotherapy student and this was his first research project. He had limited experience with techniques and strategies in terms of the practical aspects of research. As it was the first survey of the researcher so might be there were some mistakes that overlooked by the researcher. As the study was conducted at some specific area which may not represent the whole country.

6.1 Conclusions

Spinal cord injury is one of the most devastating conditions in human life. Millions of people in every year face spinal cord injury. In Bangladesh there is lack of information and proper database about spinal cord injury. Even there is no estimating number of spinal cord lesion people in Bangladesh. Bangladesh is a developing country. Most of them live with low economic level and poor educational status. In these countries there is also lack of awareness about injury especially caused by spinal cord lesion. After spinal cord lesion the sufferers survive their whole life. They become hopeless and helpless. They think they are burden of their own society because of their disability and functional impairment. This study provides a common metric of the impact of spinal cord injury in terms of functioning of ADLs. Overall in this dissertation shows that the mobility and self-care activity barrier among the SCI people in the community is greater than all domain. Male (78%) are more sufferer than female (22%) because of their working status. This study makes possible to design and monitor the impact of health and health-related interventions in case of spinal cord injury. This study provides the basis for identifying kinds and levels of barriers of community living spinal cord injured people at individual perspective which open the need of the foundations for country level disability data to inform policy and setup rehabilitation. This study makes it possible to focus directly on functioning and disability and allows the assessment of functioning separately from the spinal cord injury.

6.2 Recommendation

A recommendation evolves out of the context in which the study was conducted. It is recommended that if possible someone would overcome the existing limitation for further study. If it is possible than conducted further studies in this area. Though the research has some limitations but it identified some further step that might be taken for the better accomplishment of further research. For ensuring of the generalizability of the research it is recommended that a larger sample should be chosen randomly for the cross sectional study. The sample should be representative from the whole population. If the researcher will take long term study, the result will be more significant. Last of all entire researcher recommended to take setting in whole Bangladesh to generalize this study. The study makes it easier to design health and health related interventions, and to monitor their impact on SCI population if it would be generalized.

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APPENDIX

মৌখিক সম্মতিপত্র / অনুমতিপত্র

(অংশগ্রহণকারিকে পড়ে শোনাতে হবে)

আসসালামুয়ালাইকুম/ নমস্কার,

আমি, অর্পণ কুমার পাল, ঢাকা বিশ্ববিদ্যালয়ের অধিভুক্ত বাংলাদেশ হেলথ প্রফেশনস ইনস্টিটিউট (বিএইচপিআই)-এর অধীনে পরিচালিত বিএসসি ইন ফিজিওথেরাপী কোর্সের ৪র্থ বর্ষের একজন ছাত্র। আমি আমার একাডেমিক কাজের একটি অংশ হিসাবে এই গবেষণা করছি। আমার গবেষণার শিরোনাম হল- “সমাজে বসবাস রত মেরুরজ্জুতে আঘাত প্রাপ্ত ব্যক্তিদের দৈনন্দিন কাজে অংশগ্রহণের প্রতিবন্ধকতা” এর মাধ্যমে আমি মেরুরজ্জুতে আঘাত প্রাপ্ত রোগীদের দৈনন্দিন কাজে অংশগ্রহণের প্রতিবন্ধকতা সম্পর্কে জানতে চাই। আমি আপনাকে কিছু ব্যক্তিগত এবং দৈনন্দিন কাজের প্রতিবন্ধকতা সম্পর্কিত কিছু প্রশ্ন করতে চাচ্ছি। এতে আনুমানিক ২৫-৩০ মিনিট সময় নিবো।

আমি আপনাকে অবগত করছি যে, এটা আমার অধ্যয়নের অংশ এবং যা অন্য কোন উদ্দেশ্যে ব্যবহৃত হবে না। এই গবেষণায় অংশগ্রহণ আপনার বর্তমান এবং পরবর্তী জীবনে কোন প্রকার প্রভাব ফেলবে না। আপনি যেসব তথ্য প্রদান করবেন তার গোপনীয়তা বজায় থাকবে এবং আপনার প্রতিবেদনের ঘটনা প্রবাহে এটা নিশ্চিত করা হবে যে এই তথ্যের উৎস অপ্রকাশিত থাকবে।

এই অধ্যয়নে আপনার অংশগ্রহণ স্বেচ্ছাপ্রণোদিত এবং আপনি যেকোন সময় এই অধ্যয়ন থেকে কোন নেতিবাচক ফলাফল ছাড়াই নিজেকে প্রত্যাহার করতে পারবেন। এছাড়াও কোন নির্দিষ্ট প্রশ্ন অপছন্দ হলে উত্তর না দেয়ার এবং সাক্ষাৎকারের সময় কোন উত্তর না দিতে চাওয়ার অধিকারও আপনার আছে। এই অধ্যয়নে অংশগ্রহণকারী হিসেবে যদি আপনার কোন প্রশ্ন থাকে তাহলে আপনি আমাকে অথবা আমার সুপারভাইজার মোহাম্মদ ওবায়দুল হক, সহযোগী অধ্যাপক ও বিভাগীয় প্রধান, ফিজিওথেরাপী, বিএইচপিআই, সিআরপি, সাভার, ঢাকা-১৩৪৩ তে যোগাযোগ করতে পারেন।

সাক্ষাৎকার শুরু করার আগে কি আপনার কোন প্রশ্ন আছে?

সুতরাং, আমি আপনার অনুমতিতে এই সাক্ষাৎকার শুরু করতে পারি?

হ্যাঁ না

১। অংশগ্রহণকারীর স্বাক্ষর ও তারিখ _____

২। উপাত্ত সংগ্রহকারীর স্বাক্ষর ও তারিখ _____

৩। সাক্ষীর স্বাক্ষর ও তারিখ _____

প্রশ্নমালা

WHODAS 2.0

WORLD HEALTH ORGANIZATION DISABILITY ASSESSMENT SCHEDULE 2.0

বিশ্ব স্বাস্থ্যসংস্থা অক্ষমতা মূল্যায়ন পদ্ধতি ২.০

এই প্রশ্নমালায় সাক্ষাৎকার নেয়ার ৩৬ টি বিষয় আছেঃ

ধারা ১-

৩৬ টি বিষয়
সাক্ষাৎকারগ্রহণকারী কর্তৃক লিপিবদ্ধ

সাক্ষাৎকারের পূর্বে ১ থেকে ২ পূরণ করুন				
১	উত্তরদাতার সনাক্তকরণ নম্বরঃ			
২	সাক্ষাৎকার গ্রহণকারীর সনাক্তকরণ নম্বরঃ			
৩	পর্যালোচনার সময় (১,২ ইত্যাদি)			
৪	সাক্ষাৎকার গ্রহণের তারিখঃ	দিন	মাস	বছর
৫	সাক্ষাৎকার গ্রহণের সময় অবস্থা	স্বনির্ভর		১
		পরনির্ভর		২
		হাসপাতালে অবস্থান		৩

ধারা ২-

জনসংখ্যা সম্বলিত এবং পূর্বের তথ্য

স্বাস্থ্য ঝুঁকিতে আক্রান্ত ব্যক্তিবর্গকে ভালোভাবে বোঝার জন্য বিশ্ব স্বাস্থ্য সংস্থা কর্তৃক এই সাক্ষাৎকারটি প্রণীত। এই সাক্ষাৎকারটিতে প্রদত্ত তথ্যসমূহ গোপন থাকবে এবং কেবল মাত্র গবেষনার কাজে ব্যবহার হবে। সাক্ষাৎকারটি গ্রহণে ২০ থেকে ২৫ মিনিট সময় প্রয়োজন হবে।

উত্তর প্রদানকারী সাধারণ জনগনের (যারা শারীরিকভাবে অসুস্থ নন) জন্যঃ

এমনকি আপনি পুরোপুরি সুস্থ হওয়া সত্ত্বেও জরিপের প্রয়োজনে আপনাকে সবগুলো প্রশ্ন জিজ্ঞেস করা প্রয়োজন।

১	রোগীর লিঙ্গ	মেয়ে	১
		ছেলে	২
২	আপনার বয়স কত?	_____ বৎসর	
৩	স্কুল, কলেজ অথবা বিশ্ববিদ্যালয়ে আপনি কত বৎসর ব্যয় করেছেন ?	_____ বৎসর	
৪	আপনার বর্তমান বৈবাহিক অবস্থা কি? (সঠিক উত্তরটি বেছে নিন)	বিবাহ করেননি	১
		সম্প্রতি বিবাহ করেছেন	২
		বিবাহিত কিন্তু আলাদা থাকেন	৩
		তালাকপ্রাপ্ত	৪
		বিধবা/ বিপত্নিক	৫
		একসঙ্গে বসবাস	৬
৫	কোনটি আপনার কাজের আসল অবস্থা বর্ণনা করে?(সঠিক উত্তরটি বেছে নিন)	কাজ করলে বেতন	১
		স্বউদ্যোক্তা যেমন ব্যবসা বা চাষাবাদ করছেন	২
		অলাভজনক কাজ যেমন স্বেচ্ছা সেবক বা সমাজ সেবা	৩
		ছাত্র	৪
		বাসাবাড়ী দেখাশোনা	৫
		অবসর প্রাপ্ত	৬
		বেকার (স্বাস্থ্যগত কারণে)	৭
		বেকার (অন্য কারণে)	৮
অন্যান্য	৯		

ধারা ৩- প্রস্তাবনা

উত্তরপ্রদানকারীকে বলুনঃ

এই সাক্ষাৎকারটি যারা শারীরিক সমস্যায় রয়েছেন তাদের জন্য।

উত্তর প্রদানকারীকে ফ্লাশকার্ড # ১ দিন এবং নির্দেশ করুনঃ

শারীরিক সমস্যা বলতে বুঝাবে রোগ বা অসুস্থতাকে অথবা অন্য স্বাস্থ্য সমস্যা যা দীর্ঘস্থায়ী বা স্বল্পস্থায়ী আঘাত, মানসিক বা আবেগীয় সমস্যা। এমনকি মদ্যপান বা মাদক জনিত সমস্যা এর অন্তর্ভুক্ত।

প্রশ্নের উত্তর দেয়ার সময়ে সব ধরনের শারীরিক সমস্যার কথা মনে রাখবেন। যখন আমি কোন সমস্যার কথা জিজ্ঞেস করবো তার অর্থ হলো- কাজ করতে গিয়ে কোন শারীরিক সমস্যায় পড়েছেন কিনা।

ফ্লাশকার্ড #১ নির্দেশ করার সময় ব্যাখ্যা করুন যে 'কাজের সময় অসুবিধা পড়া' বলতে কী বোঝায়-

- * অতিরিক্ত প্রচেষ্টায় কাজটি করা
- * অস্বস্তি বা ব্যথা স্বত্বেও করা
- * সময় নিয়ে কাজটি করা
- * যেভাবে করতে চান, সেভাবে করতে না পারা

উত্তরপ্রদানকারীকে বলুনঃ

যখন উত্তর দিবেন বিগত ৩০ দিনের কথা চিন্তা করে বলবেন। সাধারণতঃ কাজটি করার সময় ৩০ দিনের গড় অসুবিধার কথা বলবেন।

ফ্লাশকার্ড # ২ দেখান ও নির্দেশ করুন-

উত্তর দেয়ার সময় নিম্নলিখিত মাপকাঠি ব্যবহার করুন।

মাপকাঠিটি উচ্চস্বরে পড়ুনঃ

কোন সমস্যা নাই, খুব অল্প সমস্যা, মাঝারি সমস্যা, তীব্র সমস্যা, প্রচণ্ড সমস্যা বা কিছুই করতে না পারা।

নিশ্চিত হোন যে সাক্ষাৎগ্রহনকালে সাক্ষাৎদানকারী যেন ফ্লাশকার্ড ১ ও ফ্লাশকার্ড ২ এর মাপকাঠিগুলো সহজেই দেখতে পারেন।

ধারা ৪-পর্যবেক্ষন ক্ষেত্র

ক্ষেত্র ১- বোধশক্তি

আমি এখন বোঝার ক্ষমতা ও ভাব বিনিময় বিষয়ে কিছু প্রশ্ন করছি।

উত্তর প্রদানকারীকে ফ্লাশকার্ড ০১ এবং ফ্লাশকার্ড ০২ দেখান।

বিগত ৩০ দিনে আপনি কতটুকু সমস্যায় পড়েছেনঃ	কোন সমস্যা নাই	খুব অল্প সমস্যা	মাঝারি সমস্যা	তীব্র সমস্যা	প্রচণ্ড সমস্যা বা কিছুই করতে না পারা
০১.১ কোন কিছু করতে ১০ মিনিট মনোযোগ দিতে পারেন?	১	২	৩	৪	৫
০১.২ গুরুত্বপূর্ণ কিছু করার কথা মনে থাকে?	১	২	৩	৪	৫
০১.৩ দৈনন্দিন কাজে সমস্যা হলে বিশ্লেষণ ও সমাধান করতে পারেন ?	১	২	৩	৪	৫
০১.৪ নতুন কিছু শেখা (যেমন নতুন কোন স্থানে কি করে যেতে হয়)?	১	২	৩	৪	৫
০১.৫ সচরাচর মানুষ যা বলে, তা বুঝতে পারেন ?	১	২	৩	৪	৫
০১.৬ কোন বিষয়ে আলোচনা শুরু করতে ও চালিয়ে যেতে পারেন?	১	২	৩	৪	৫

ক্ষেত্র ২: চলাফেরা-

এখন আমি চলাফেরার অসুবিধা সম্পর্কে জানতে চাইবো।

উত্তর প্রদানকারীকে ফ্লাশকার্ড ০১ এবং ফ্লাশকার্ড ০২ দেখান।

বিগত ৩০ দিনে আপনি কতটুকু সমস্যায় পড়েছেনঃ	কোন সমস্যা নাই	খুব অল্প সমস্যা	মাঝারি সমস্যা	তীব্র সমস্যা	প্রচণ্ড সমস্যা বা কিছুই করতে না পারা
০২.১ একটানা ৩০ মিনিট দাঁড়িয়ে থাকতে পারেন?	১	২	৩	৪	৫
০২.২ বসা থেকে দাঁড়াতে পারেন?	১	২	৩	৪	৫
০২.৩ বাড়ীর ভিতর চলাফেরা করতে পারেন?	১	২	৩	৪	৫
০২.৪ বাড়ী থেকে বাইরে যেতে পারেন?	১	২	৩	৪	৫
০২.৫ একটানা এক কিলোমিটার হাঁটতে পারেন?	১	২	৩	৪	৫

ক্ষেত্র ৩ নিজের যত্ন-

আমি এখন আপনার কাছে জানতে চাইবো- নিজের যত্ন নিজে নিতে পারেন কিনা।

ফ্লাশকার্ড ০১ এবং ফ্লাশকার্ড ০২ দেখিয়ে-

বিগত ৩০ দিনে আপনি কতটুকু সমস্যায় পড়েছেনঃ	কোন সমস্যা নাই	খুব অল্প সমস্যা	মাঝারি সমস্যা	তীব্র সমস্যা	প্রচণ্ড সমস্যা বা কিছুই করতে না পারা	
০৩.১	নিজে নিজে গোসল করতে পারেন?	১	২	৩	৪	৫
০৩.২	নিজে নিজে কাপড় পরতে পারেন?	১	২	৩	৪	৫
০৩.৩	নিজে নিজে খেতে পারেন?	১	২	৩	৪	৫
০৩.৪	দিন কয়েক একা থাকতে পারেন?	১	২	৩	৪	৫

ক্ষেত্র ৪ মানুষের সাথে মানিয়ে চলা-

মানুষের সাথে থাকার ব্যাপারে কোন সমস্যা হয় কিনা সে সম্পর্কে এখন আমি আপনাকে জিজ্ঞেস করছি। অনুগ্রহপূর্বক মনে রাখবেন যে কেবল মাত্র অসুস্থতার কারণে সৃষ্ট সমস্যা সম্বন্ধেই প্রশ্ন করা হবে। এর অর্থ আমি বোঝাচ্ছি রোগ বা অসুস্থতা, আঘাত, মানসিক বা আবেগজনিত সমস্যা এবং মদ্যপান বা মাদক জনিত সমস্যা।

ফ্লাশকার্ড ০১ এবং ফ্লাশকার্ড ০২ দেখিয়ে-

বিগত ৩০ দিনে আপনি কতটুকু সমস্যায় পড়েছেনঃ	কোন সমস্যা নাই	খুব অল্প সমস্যা	মাঝারি সমস্যা	তীব্র সমস্যা	প্রচণ্ড সমস্যা বা কিছুই করতে না পারা	
০৪.১	অপরিচিত লোকের সঙ্গে আচরণে ?	১	২	৩	৪	৫
০৪.২	বন্ধুত্ব রক্ষা করতে?	১	২	৩	৪	৫
০৪.৩	পরিচিত লোকের সাথে থাকতে?	১	২	৩	৪	৫
০৪.৪	নতুন বন্ধু তৈরিতে?	১	২	৩	৪	৫
০৪.৫	যৌন কার্যকলাপে?	১	২	৩	৪	৫

ক্ষেত্র ৫ জীবনযাপন প্রনালী

৫(১) গৃহস্থালী কার্যাবলি-

এখন আমি আপনাকে গৃহস্থালী কাজের ব্যাপারে জিজ্ঞেস করবো। আপনার আপনজন যাদের সাথে আপনি থাকেন তাদের প্রতি আপনি কতটা যত্নশীল। এই কার্যক্রমের মধ্যে অন্তর্ভুক্ত রয়েছে - রান্নাবান্না, পরিষ্কার, পরিচ্ছন্নতা, বাজার, অন্যের প্রতি এবং নিজের জিনিসপত্রের যত্ন আত্তি করা।

ফ্লাশকার্ড ০১ এবং ফ্লাশকার্ড ০২ দেখিয়ে-

বিগত ৩০ দিনে স্বাস্থ্যগত কারণে আপনি কতটুকু সমস্যায় পড়েছেনঃ	কোন সমস্যা নাই	খুব অল্প সমস্যা	মাঝারি সমস্যা	তীব্র সমস্যা	প্রচন্ড সমস্যা বা কিছুই করতে না পারা
০৫.১ গৃহস্থালী দায়িত্বগুলো পালন করতে পারেন?	১	২	৩	৪	৫
০৫.২ সবচেয়ে গুরুত্বপূর্ণ গৃহস্থালী কাজগুলো ভালভাবে করতে পারেন?	১	২	৩	৪	৫
০৫.৩ প্রয়োজনীয় সকল গৃহস্থালী কাজগুলো সমাপ্ত করতে পারেন?	১	২	৩	৪	৫
০৫.৪ গৃহস্থালী কাজগুলো যথা সম্ভব দ্রুত করতে পারেন?	১	২	৩	৪	৫

যদি ০৫.২ -০৫.৫ এর মান 'কোন সমস্যা নাই' (১) এর বেশি হয় তাহলে জিজ্ঞেস করুন-

০৫.০১	বিগত ৩০ দিনের মধ্যে কতদিন গৃহস্থালীর কাজ কম হয়েছে অথবা কতদিন কাজ পুরোপুরি বাদ গেছে।	উক্ত দিনগুলোর হিসেব লিখুন।
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যদি সাক্ষাৎদানকারী চাকুরী করেন (বেতন ভুক্ত, অবৈতনিক, স্বকর্মসংস্থান) অথবা স্কুলে যায়, তাহলে পরবর্তী পৃষ্ঠায় ০৫.৫-০৫.১০ এর প্রশ্নগুলো শেষ করুন। অন্যথায় ০৬.১-এ চলে যেতে পারেন।

৫(২) পেশাগত বা স্কুলের কাজকর্ম-

এখন আমি আপনার পেশাগত বা স্কুলের কাজকর্ম নিয়ে জানতে চাইব।

ফ্লাশকার্ড ০১ এবং ফ্লাশকার্ড ০২ দেখিয়ে-

আপনার স্বাস্থ্যগত সমস্যার কারণে বিগত ৩০ দিনের মধ্যে কতটুকু সমস্যায় পড়েছেনঃ	কোন সমস্যা নাই	খুব অল্প সমস্যা	মাঝারি সমস্যা	তীব্র সমস্যা	প্রচণ্ড সমস্যা বা কিছুই করতে না পারা
০৫.৫ আপনার দৈনন্দিন বা স্কুলের কাজ করতে?	১	২	৩	৪	৫
০৫.৬ আপনার পেশাগত বা স্কুলের জরুরী কোন কাজ সমাধান করতে ?	১	২	৩	৪	৫
০৫.৭ আপনার প্রয়োজনীয় সকল কাজগুলো করতে ?	১	২	৩	৪	৫
০৫.৮ আপনার কাজগুলো নির্দিষ্ট সময়ে প্রয়োজনীয় দ্রুততার সাথে শেষ করতে?	১	২	৩	৪	৫
০৫.৯ শারীরিক অবস্থার কারণে আপনাকে কি আপনার মর্যাদার চাইতে নিম্নস্তরে কাজ করতে হয়?				না	১
				হ্যাঁ	২
০৫.১০ শারীরিক অবস্থার কারণে কম উপার্জন করেছেন কি?				না	১
				হ্যাঁ	২

যদি ০৫.৫-০৫.৮ এর মান 'কোন সমস্যা নাই' (১) এর চেয়ে বেশি হয় তাহলে জিজ্ঞেস করুনঃ

০৫.২	বিগত ৩০ দিনের মধ্যে কতদিন আপনি অর্ধবেলা বা তার বেশি সময় আপনার স্বাস্থ্যগত সমস্যার কারণে কাজ থেকে অনুপস্থিত থেকেছেন ?	উক্ত দিনগুলোর হিসেব লিখুন।
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ক্ষেত্র ৬ অংশ গ্রহনঃ

এখন আমি আপনাকে জিজ্ঞেস করব সমাজে আপনার অংশগ্রহন এবং আপনার নিজের ও পরিবারের উপর আপনার শারীরিক সমস্যার প্রভাব সম্পর্কে। কিছু প্রশ্ন হতে পারে বিগত ৩০ দিন আগের আপনার সমস্যা সম্পর্কে। উত্তর দেয়ার সময় অনুগ্রহপূর্বক বিগত ৩০ দিনের উপর আলোকপাত করবেন। আবারো আমি আপনাকে মনে করিয়ে দিতে চাই যে, এই প্রশ্নগুলোর উত্তরের সময় শারীরিক, মানসিক বা আবেগীয়, মদ্যপান বা মাদক জনিত সমস্যার কথা বলবেন।

ফ্লাশকার্ড ০১ এবং ফ্লাশকার্ড ০২ দেখিয়ে-

বিগত ৩০ দিনেঃ		কোন সমস্যা নাই	খুব অল্প সমস্যা	মাঝারি সমস্যা	তীব্র সমস্যা	প্রচলিত সমস্যা বা কিছুই করতে না পারা
০৬.১	সামাজিক অনুষ্ঠান গুলোতে (যেমন উৎসব, ধর্মীয় অনুষ্ঠান বা অন্যান্য কর্মকান্ড) অন্যদের মত অংশ গ্রহন করতে গিয়ে কোন অসুবিধার মুখোমুখি হয়েছেন?	১	২	৩	৪	৫
০৬.২	আপনার পারিপার্শ্বিক বাধা-বিয়ের দরুন কতটুকু সমস্যায় পড়েছেন?	১	২	৩	৪	৫
০৬.৩	অন্যের দৃষ্টিভঙ্গি ও কাজের কারণে আপনি মর্যাদাপূর্ণ জীবনযাপনে কতটুকু সমস্যায় পড়েছেন?	১	২	৩	৪	৫
০৬.৪	আপনার শারীরিক সমস্যা ও এর ফলে উদ্ভূত সমস্যাগুলোর জন্য কতটুকু সময় ব্যয় করেন?	১	২	৩	৪	৫
০৬.৫	নিজের শারীরিক সমস্যার কারণে কতটুকু আবেগ তারিত হন?	১	২	৩	৪	৫
০৬.৬	আপনার শারীরিক সমস্যার কারণে আপনার বা পরিবারের কী পরিমান আর্থিক ক্ষতি হচ্ছে?	১	২	৩	৪	৫
০৬.৭	আপনার শারীরিক সমস্যার কারণে আপনার পরিবার কতটুকু ভুক্তভোগী?	১	২	৩	৪	৫
০৬.৮	বিশ্রাম বা বিনোদনের জন্য কিছু করতে গিয়ে আপনি কতটুকু সমস্যায় পড়েছেন?	১	২	৩	৪	৫

১	সব মিলিয়ে, গত ৩০ দিনে, মোট কতদিন উপরোক্ত সমস্যা গুলো হয়েছে?	দিনগুলোর হিসাব রাখুন।
২	বিগত ৩০ দিনের মধ্যে কতদিন আপনি আপনার সাধারণ কাজে সম্পূর্ণ অপরগ ছিলেন?	দিনগুলোর হিসাব রাখুন।
৩	বিগত ৩০ দিনের অসুস্থতার কারণে কতদিন স্বাভাবিক কাজকর্ম কম করেছেন?	দিনগুলোর হিসাব রাখুন।

সাক্ষাৎকার এখানেই শেষ। আপনাকে ধন্যবাদ।

শারীরিক অবস্থাঃ

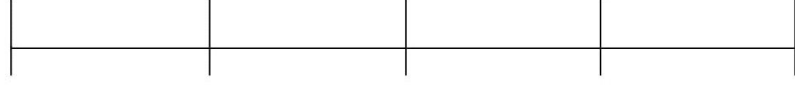
- রোগ, অসুস্থতা বা অন্য কোন শারীরিক সমস্যা
- আঘাত সমূহ
- মানসিক বা আবেগীয় সমস্যা
- মদ্যপান জনিত সমস্যা
- মাদক জনিত সমস্যা

কাজের ক্ষেত্রে সমস্যা হচ্ছে বলতে বোঝায়ঃ

- অতিরিক্ত প্রচেষ্টায় কাজটি করা
- অস্বস্তি বা ব্যথা স্বত্বেও করা
- সময় নিয়ে কাজটি করা
- যেভাবে করতে চান, সেভাবে করতে না পারা

কেবল মাত্র বিগত ৩০ দিনের কথা ভাবুন।

ফ্লাশকার্ড#২



১

কোন সমস্যা নাই

২

খুব অল্প সমস্যা

৩

মাঝারি সমস্যা

৪

তীব্র সমস্যা

৫

প্রচণ্ড সমস্যা বা
কিছুই করতে না
পারা

Verbal Consent Statement
(Please read out to the participants)

Assalamualaikum / Namasker,

I am Arpon Kumar Paul, 4th professional B.sc in Physiotherapy student under Bangladesh Health Professions Institute (BHPI), which is affiliated by University of Dhaka. I am conducting this study as a part of my academic work. My dissertation title is “**BARRIERS TO PARTICIPATE IN ACTIVITY OF DAILY LIVINGS IN THE COMMUNITY AMONG THE PERSONS WITH SPINAL CORD INJURY**”. I would like to know about spinal cord injured persons barriers in their own community. Now I want to ask some personal and barriers related question. This will take approximately 25 to 30 minutes.

I would like to inform you that, this is a purely academic study and will not be used for any other purpose. Your participation in the research will have no effect on your current or upcoming life. All information provided by you will be kept in confidential and in the event of any report or publication it will be ensured that the source of information remains unidentified.

Your participation in this study is voluntary and you may withdraw yourself at any time during this study without any negative consequences. You also have the right not to answer a particular question that you don't like or do not want to answer during interview.

If you have any query about the study or your right as a participant, you may contact with me or my Supervisor Md. Obaidul Haque, Associate Professor and Head of the Department of Physiotherapy, BHPI, CRP, Savar, Dhaka-1343.

Do you have any questions before I start?

So may I have your consent to proceed with the interview?

Yes

No

Signature of the Participant and date _____

Signature of the Data collector and date _____

Signature of Witness and date _____

Questionnaire



WHODAS 2.0

WORLD HEALTH ORGANIZATION
DISABILITY ASSESSMENT SCHEDULE 2.0

36-item version, interviewer-administered

Introduction

This instrument was developed by the WHO *Classification, Terminology and Standards* team, within the framework of the WHO/National Institutes of Health (NIH) Joint Project on Assessment and Classification of Disability.

Before using this instrument, interviewers must be trained using the manual *Measuring Health and Disability: Manual for WHO Disability Assessment Schedule – WHODAS 2.0* (WHO 2010), which includes an interview guide and other training material.

The versions of the interview available are as follows:

- 36-item – Interviewer-administered^a
- 36-item – Self-administered
- 36-item – Proxy-administered^b
- 12-item – Interviewer-administered^c
- 12-item – Self-administered
- 12-item – Proxy-administered
- 12+24-item – Interviewer-administered

^a A computerized version of the interview (*iShell*) is available for computer-assisted interviews or for data entry

^b Relatives, friends or caretakers

^c The 12-item version explains 81% of the variance of the more detailed 36-item version

For more details of the versions please refer to the WHODAS 2.0 manual *Measuring Health and Disability: Manual for WHO Disability Assessment Schedule – WHODAS 2.0* (WHO 2010).

Permission to translate this instrument into any language should be obtained from WHO, and all translations should be prepared according to the WHO translation guidelines, as detailed in the accompanying manual.

For additional information, please visit www.who.int/whodas or contact:

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WHODAS 2.0

WORLD HEALTH ORGANIZATION
DISABILITY ASSESSMENT SCHEDULE 2.0

36
Interview

This questionnaire contains the interviewer-administered 36-item version of WHODAS 2.0.

Instructions to the interviewer are written in bold and italics – do not read these aloud.

Text for the respondent to hear is written in

standard print in blue.

Read this text aloud.

Section 1 Face sheet

<i>Complete items F1–F5 before starting each interview</i>				
F1	Respondent identity number			
F2	Interviewer identity number			
F3	Assessment time point (1, 2, etc.)			
F4	Interview date	_____	_____	_____
		day	month	year
F5	Living situation at time of interview (circle only one)	Independent in community	1	
		Assisted living	2	
		Hospitalized	3	



Section 2 Demographic and background information

This interview has been developed by the World Health Organization (WHO) to better understand the difficulties people may have due to their health conditions. The information that you provide in this interview is confidential and will be used only for research. The interview will take 15–20 minutes to complete.

For respondents from the general population (not the clinical population) say:

Even if you are healthy and have no difficulties, I need to ask all of the questions so that the survey is complete.

I will start with some background questions.

A1	Record sex as observed	Female	1
		Male	2
A2	How old are you now?	_____ years	
A3	How many years in all did you spend <u>studying in school, college or university?</u>	_____ years	
A4	What is your <u>current marital status?</u> (Select the single best option)	Never married	1
		Currently married	2
		Separated	3
		Divorced	4
		Widowed	5
		Cohabiting	6
A5	Which describes your <u>main work status</u> best? (Select the single best option)	Paid work	1
		Self employed, such as own your business or farming	2
		Non-paid work, such as volunteer or charity	3
		Student	4
		Keeping house/ homemaker	5
		Retired	6
		Unemployed (health reasons)	7
		Unemployed (other reasons)	8
		Other (specify) _____ _____	9



Section 3 Preamble

Say to respondent:

The interview is about difficulties people have because of health conditions.

Hand flashcard #1 to respondent and say:

By health condition I mean diseases or illnesses, or other health problems that may be short or long lasting; injuries; mental or emotional problems; and problems with alcohol or drugs.

Remember to keep all of your health problems in mind as you answer the questions. When I ask you about difficulties in doing an activity think about ...

Point to flashcard #1 and explain that "difficulty with an activity" means:

- Increased effort
- Discomfort or pain
- Slowness
- Changes in the way you do the activity.

Say to respondent:

When answering, I'd like you to think back over the past 30 days. I would also like you to answer these questions thinking about how much difficulty you have had, on average, over the past 30 days, while doing the activity as you usually do it.

Hand flashcard #2 to respondent and say:

Use this scale when responding.

Read the scale aloud:

None, mild, moderate, severe, extreme or cannot do.

Ensure that the respondent can easily see flashcards #1 and #2 throughout the interview



WHODAS 2.0

WORLD HEALTH ORGANIZATION
DISABILITY ASSESSMENT SCHEDULE 2.0

36
Interview

Section 4 Domain reviews

Domain 1 Cognition

I am now going to ask some questions about [understanding and communicating](#).

Show flashcards #1 and #2 to respondent

In the past 30 days, how much difficulty did you have in:		None	Mild	Moderate	Severe	Extreme or cannot do
D1.1	Concentrating on doing something for ten minutes?	1	2	3	4	5
D1.2	Remembering to do important things?	1	2	3	4	5
D1.3	Analysing and finding solutions to problems in day-to-day life?	1	2	3	4	5
D1.4	Learning a new task, for example, learning how to get to a new place?	1	2	3	4	5
D1.5	Generally understanding what people say?	1	2	3	4	5
D1.6	Starting and maintaining a conversation?	1	2	3	4	5

Domain 2 Mobility

I am now going to ask you about difficulties in [getting around](#).

Show flashcards #1 and #2

In the past 30 days, how much difficulty did you have in:		None	Mild	Moderate	Severe	Extreme or cannot do
D2.1	Standing for long periods such as 30 minutes?	1	2	3	4	5
D2.2	Standing up from sitting down?	1	2	3	4	5
D2.3	Moving around inside your home?	1	2	3	4	5
D2.4	Getting out of your home?	1	2	3	4	5
D2.5	Walking a long distance such as a kilometre [or equivalent]?	1	2	3	4	5

Please continue to next page...



WHODAS 2.0

WORLD HEALTH ORGANIZATION
DISABILITY ASSESSMENT SCHEDULE 2.0

36
Interview

Domain 3 Self-care

I am now going to ask you about difficulties in [taking care of yourself](#).

Show flashcards #1 and #2

In the past 30 days, how much difficulty did you have in:		None	Mild	Moderate	Severe	Extreme or cannot do
D3.1	Washing your whole body?	1	2	3	4	5
D3.2	Getting dressed?	1	2	3	4	5
D3.3	Eating?	1	2	3	4	5
D3.4	Staying by yourself for a few days?	1	2	3	4	5

Domain 4 Getting along with people

I am now going to ask you about difficulties in [getting along with people](#). Please remember that I am asking only about difficulties that are due to health problems. By this I mean diseases or illnesses, injuries, mental or emotional problems and problems with alcohol or drugs.

Show flashcards #1 and #2

In the past 30 days, how much difficulty did you have in:		None	Mild	Moderate	Severe	Extreme or cannot do
D4.1	Dealing with people you do not know?	1	2	3	4	5
D4.2	Maintaining a friendship?	1	2	3	4	5
D4.3	Getting along with people who are close to you?	1	2	3	4	5
D4.4	Making new friends?	1	2	3	4	5
D4.5	Sexual activities?	1	2	3	4	5

Please continue to next page...



WHODAS 2.0

WORLD HEALTH ORGANIZATION
DISABILITY ASSESSMENT SCHEDULE 2.0

36
Interview

Domain 5 Life activities

5(1) Household activities

I am now going to ask you about activities involved in maintaining your household, and in caring for the people who you live with or are close to. These activities include cooking, cleaning, shopping, caring for others and caring for your belongings.

Show flashcards #1 and #2

Because of your health condition, in the past 30 days, how much difficulty did you have in:		None	Mild	Moderate	Severe	Extreme or cannot do
D5.1	Taking care of your <u>household responsibilities</u> ?	1	2	3	4	5
D5.2	Doing your most important household tasks <u>well</u> ?	1	2	3	4	5
D5.3	Getting all the household work <u>done</u> that you needed to do?	1	2	3	4	5
D5.4	Getting your household work done as <u>quickly</u> as needed?	1	2	3	4	5

If any of the responses to D5.2–D5.5 are rated greater than none (coded as “1”), ask:

D5.01	In the past 30 days, on how many days did you reduce or completely miss <u>household work</u> because of your health condition?	Record number of days ____
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If respondent works (paid, non-paid, self-employed) or goes to school, complete questions D5.5–D5.10 on the next page. Otherwise, skip to D6.1 on the following page.



WHODAS 2.0

WORLD HEALTH ORGANIZATION
DISABILITY ASSESSMENT SCHEDULE 2.0

36
Interview

5(2) Work or school activities

Now I will ask some questions about your work or school activities.

Show flashcards #1 and #2

Because of your health condition, in the past 30 days how much difficulty did you have in:		None	Mild	Moderate	Severe	Extreme or cannot do
D5.5	Your day-to-day <u>work/school</u> ?	1	2	3	4	5
D5.6	Doing your most important work/school tasks <u>well</u> ?	1	2	3	4	5
D5.7	Getting all the work <u>done</u> that you need to do?	1	2	3	4	5
D5.8	Getting your work done as <u>quickly</u> as needed?	1	2	3	4	5
D5.9	Have you had to work at a <u>lower level</u> because of a health condition?				No	1
					Yes	2
D5.10	Did you <u>earn less money</u> as the result of a health condition?				No	1
					Yes	2

If any of D5.5–D5.8 are rated greater than none (coded as “1”), ask:

D5.02	In the past 30 days, on how many days did you <u>miss work for half a day or more</u> because of your health condition?	Record number of days ____
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Please continue to next page...



WHODAS 2.0

WORLD HEALTH ORGANIZATION
DISABILITY ASSESSMENT SCHEDULE 2.0

36
Interview

Domain 6 Participation

Now, I am going to ask you about your participation in society and the impact of your health problems on you and your family. Some of these questions may involve problems that go beyond the past 30 days, however in answering, please focus on the past 30 days. Again, I remind you to answer these questions while thinking about health problems: physical, mental or emotional, alcohol or drug related.

Show flashcards #1 and #2

In the past 30 days:		None	Mild	Moderate	Severe	Extreme or cannot do
D6.1	How much of a problem did you have <u>joining in community activities</u> (for example, festivities, religious or other activities) in the same way as anyone else can?	1	2	3	4	5
D6.2	How much of a problem did you have because of <u>barriers or hindrances</u> in the world around you?	1	2	3	4	5
D6.3	How much of a problem did you have <u>living with dignity</u> because of the attitudes and actions of others?	1	2	3	4	5
D6.4	How much <u>time</u> did <u>you</u> spend on your health condition or its consequences?	1	2	3	4	5
D6.5	How much have <u>you</u> been <u>emotionally affected</u> by your health condition?	1	2	3	4	5
D6.6	How much has your health been a <u>drain on the financial resources</u> of you or your family?	1	2	3	4	5
D6.7	How much of a problem did your <u>family</u> have because of your health problems?	1	2	3	4	5
D6.8	How much of a problem did you have in doing things <u>by yourself</u> for <u>relaxation or pleasure</u> ?	1	2	3	4	5



WHODAS 2.0

WORLD HEALTH ORGANIZATION
DISABILITY ASSESSMENT SCHEDULE 2.0

36

Interview

H1	Overall, in the past 30 days, <u>how many days</u> were these difficulties present?	Record number of days ____
H2	In the past 30 days, for how many days were you <u>totally unable</u> to carry out your usual activities or work because of any health condition?	Record number of days ____
H3	In the past 30 days, not counting the days that you were totally unable, for how many days did you <u>cut back</u> or <u>reduce</u> your usual activities or work because of any health condition?	Record number of days ____

This concludes the interview. Thank you for participating.



WHODAS 2.0

WORLD HEALTH ORGANIZATION
DISABILITY ASSESSMENT SCHEDULE 2.0

Flashcard 1

Health conditions:

- **Diseases, illnesses or other health problems**
- **Injuries**
- **Mental or emotional problems**
- **Problems with alcohol**
- **Problems with drugs**

Having difficulty with an activity means:

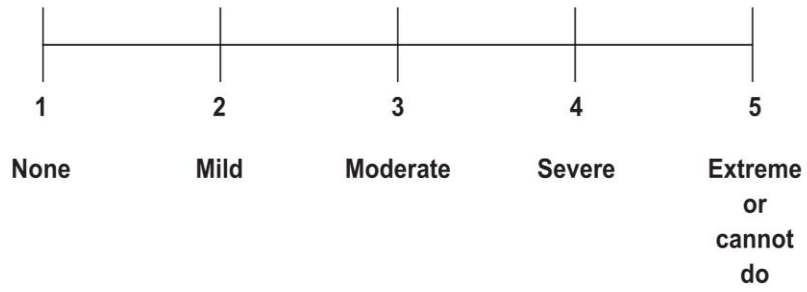
- **Increased effort**
- **Discomfort or pain**
- **Slowness**
- **Changes in the way you do the activity**

Think about the past 30 days only.

WHODAS 2.0

WORLD HEALTH ORGANIZATION
DISABILITY ASSESSMENT SCHEDULE 2.0

Flashcard 2





বাংলাদেশ হেল্থ প্রফেশন্স ইনষ্টিটিউট (বিএইচপিআই)
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তারিখ : ০৩.০৫.২০১৭

প্রতি
সহকারী ব্যবস্থাপক
রিহ্যাবিলিটেশন উইং
সিআরপি, সাভার, ঢাকা।

বিষয় : রিসার্চ প্রজেক্ট (dissertation) প্রসঙ্গে।

জনাব,

বিএইচপিআই'র ৪র্থ পেশাগত বিএসসি ইন ফিজিওথেরাপি কোর্সের ছাত্র অর্পন কুমার পালকে তার রিসার্চ সংক্রান্ত কাজের জন্য আগামী ০৪.০৫.২০১৭ তারিখ থেকে ০৪.০৬.২০১৭ তারিখ পর্যন্ত সময়ে আপনার নিকট প্রেরণ করা হলো। তার রিসার্চ শিরোনাম

“Barriers to participate in activity of daily livings in the community among the persons with spinal cord injury.”

তাই তাকে সার্বিক সহযোগীতা প্রদানের জন্য অনুরোধ করছি।

ধন্যবাদান্তে

মোঃ ওবায়দুল হক
সহযোগী অধ্যাপক ও বিভাগীয় প্রধান
ফিজিওথেরাপি বিভাগ
বিএইচপিআই।



বাংলাদেশ হেল্থ প্রফেশন্স ইনস্টিটিউট (বিএইচপিআই)
BANGLADESH HEALTH PROFESSIONS INSTITUTE (BHPI)
(The Academic Institute of CRP)

Ref: CRP-BHPI/IRB/04/17/115

Date: 15/04/2017

To
Arpon Kumar Paul
B.Sc. in Physiotherapy
Session: 2012-13, Student ID: 112120037
BHPI, CRP, Savar, Dhaka-1343, Bangladesh

Subject: "Barriers to participate in activity of daily livings in the community among the persons with spinal cord injury".

Dear Arpon Kumar Paul,

The Institutional Review Board (IRB) of BHPI has reviewed and discussed your application on 16.08.2016 to conduct the above mentioned thesis, with yourself, as the Principal investigator. The Following documents have been reviewed and approved:

Sr. No.	Name of the Documents
1	Thesis Proposal
2	Questionnaire (English and Bengali version)
3	Information sheet & consent form.

Since the study involves WHODAS II 36 item Bengali version questioner that takes 25 to 30 minutes and have no likelihood of any harm to the participants. The members of the Ethics committee have approved the study to be conducted in the presented form at the meeting held at 09:00 AM on August 17, 2016 at BHPI.

The institutional Ethics committee expects to be informed about the progress of the study, any changes occurring in the course of the study, any revision in the protocol and patient information or informed consent and ask to be provided a copy of the final report. This Ethics committee is working accordance to Nuremberg Code 1947, World Medical Association Declaration of Helsinki, 1964 - 2013 and other applicable regulation.

Best regards,

Muhammad Millat Hossain

Muhammad Millat Hossain
Assistant Professor, Dept. of Rehabilitation Science
Member Secretary, Institutional Review Board (IRB)
BHPI, CRP, Savar, Dhaka-1343, Bangladesh

CRP-Chapain, Savar, Dhaka-1343. Tel: 02-7745464-5, 7741404 , Fax: 02-7745069,
Email: contact@crp-bangladesh.org, www.crp-bangladesh.org