

**QUALITY OF LIFE OF WOMEN WITH SPINAL CORD INJURY
AFTER COMPLETING REHABILITATION FROM CRP**

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We the undersigned certify that we have carefully read and recommended to the Faculty of Medicine, University of Dhaka, for the acceptance of this dissertation entitled

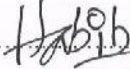
**QUALITY OF LIFE OF WOMEN WITH SPINAL CORD INJURY
AFTER COMPLETING REHABILITATION FROM CRP**

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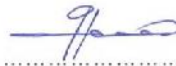
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DECLARATION

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 decline that for any publication, presentation or dissemination of information of the study. I would bound to take written consent from the department of Physiotherapy of Bangladesh Health Professions Institute (BHPI).

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Acronyms

ADL:	Activity of Daily Living
BHPI:	Bangladesh Health Profession's Institute
BMRC:	Bangladesh Medical Research Council
BP:	Bodily Pain
CRP:	Centre for the Rehabilitation of the Paralysed
GH:	General Health
HRQoL:	Health Related Quality of Life
HT :	Health transition
IRB:	Institutional Review Board
MCS:	Mental Component Summary
MH:	Mental Health
QoL:	Quality of Life
PCS:	Physical Component Summary
PF:	Physical Functioning
RF :	Role Physical
RE :	Role Emotional
SCI:	Spinal Cord Injury
SHCs:	Secondary Health Conditions
SPSS:	Statistical Package for the Social Sciences
SF:	Social Functioning
USA:	United State of America
VT:	Vitality
WHO:	World Health Organization

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Abstract

Purpose: To assess the quality of life of women with spinal cord injury in community after attending at a selective specialized rehabilitation centre (CRP). *Objectives:* To find out the quality of life of spinal cord injury women through the evaluation of physical functioning (PF), Role-emotional (RP), Bodily pain (BP), General health (GH), Vitality (VT), Social functioning (SF), Role-emotional (RE), Mental health (MH). *Methodology:* The study design was cross-sectional. Total 50 samples were selected conveniently for this study from community after their rehabilitation from CRP. Data was collected by using of questionnaire and quality of life (QOL) was assessed by the Short Form-236 (SF-36v2) health survey questionnaire. The study was conducted by using quantitative descriptive analysis through using SPSS software 20.0 version and association was found by Chi-square. *Results:* In this study, among fifty participants, 62% (n=31) were paraplegic and 38% (n=19) were tetraplegic with age ranging from 10-70 years. Very poor Physical functioning was found in both paraplegic and tetraplegic women. The subjects reported lower scores on physical health and mental health in other dimensions of SF-36 where tetraplegic women scored less than paraplegic women. Significant association was found in all component of SF-36v2 for tetraplegic women but in case of paraplegic women only vitality and role physical did not exclude any association with SF-36v2 components. No association was found between residential area with SF-36v2 components but in case of rural area few significant association was found in role physical and general health. *Conclusion:* Spinal cord injury is a disastrous condition which causes individual's quality of life declining. The spinal cord injured women reported low scores on all of the SF-36 dimensions that characterize poor quality of life (QOL) among all. The study demonstrated that spinal cord injury greatly affects quality of life and gives rise to more problems, especially in the areas of physical and mental health. It is necessary to take steps to improve the physical and emotional status of persons with spinal cord injury, as this will eventually lead to improvement in their quality of life.

Key words: Quality of life (QOL), Women, Spinal Cord Injury (SCI)

1.1 Background

Bangladesh is developing country and most densely populated country in the world. According to Bangladesh Demographics Profile (2018), approximately hundred and fifty-eight million people live in this small country. It is considered as one of the least developed countries in the world as measured in term of average income, calories consumption, high infant mortality rate and low literacy rate. According to JICA (2017), approximately 15% population are experiencing from different kind of disabilities through the world. And 80% of them are living in different developing countries. It has been estimated that, near about 10% of total population are disable in Bangladesh where 43% are physically disable (JICA, 2002). According to Disability in Bangladesh (2012) the total figure of disability is increasing with population growth and aging. The number of persons with disabilities is about 15 million in total population of Bangladesh. With such a large number of disables people it is quite impossible to achieve national development. But it is real phenomenon of our society that disable people are very often deprived of their social opportunity and their rights.

Spinal cord injury (SCI) is most common for causing disability and it is a disorder which is devastating features that can cause impairment in physical, psychological, and social functioning (Gurcay et al., 2010). Spinal cord injury is not expected and occurs suddenly resulting paralysis that can change the lifestyle of the person's (Smith et al., 2013). Spinal cord injury is responsible for mortality, and high level of disability can occur by this, which is reflected in radical changes in lifestyle (Kawanishi & Greguol, 2013). Spinal cord lesion is disability oriented problems that can create public health problems and most costly occupational health problems that mostly occur in young male of low social status (Islam et al., 2011). Persons with SCI may have to live with their disability for a much longer period of time till the natural end of their lives. According to their level of injury, people with SCI often have significant functional limitations and lack of independence (Noonan et al., 2012).

SCI patients are more common in developing countries. About more than 80% SCI patients are found in 100 different developing countries. But the epidemiological information about SCI is not enough. Traumatic and non-traumatic both type of injury can cause SCI and cause disability. This disability cause great concern to the medical world. This disability also affects Persons life, family and society (Spinal & Injury, 2015).

Spinal cord injury most commonly affects low-socio economic group. Male are more affected than female. The incidence of spinal cord injury is increasing with time with an annual rate of 15-40 cases per million. Haque et al. (1999) had suggested that the male and female ratio of Spinal Cord Injury was about 7.5: 1. It was found that 88% male and 12% female were affected by spinal cord injury. Rahman et al. (2017) mentioned in a study that 86.8% male are affected and 13.2% female are affected. So by this study we found that the numbers of female affected by spinal cord injury are increasing day by day.

In 2015, In Bangladesh- Male to female ratio of total population were 101.86 males per 100 females. So it is clear that about half of the population in Bangladesh are women. But Domestic violence is a common phenomenon in women. They are abused physically, socially, emotionally in their family relationship. About 30% of women's are physically and sexually abused by their male partner (Tavoli et al., 2016). But now -a-days women are not involving themselves at home, they are found in outward also. As women are neglected so their quality of life is not good as male. And being women with disability is more vulnerable. So their quality of life will be decreased. (Asaduzzaman et al., 2015)

Quality of life means, "Person's perception of position in their life and within the context of the culture and value systems in which they lives and in relation to their goals, expectations, standards, and concerns". The person's physical health, psychological state, level of independence, social relationships, personal beliefs and relationship to the environment consists the Quality of Life" (WHO, 1999).

Spinal cord is responsible for giving both type of stimuli in the periphery and the brain. So if this organ get injured, organic structures and functions are compromised which can results in limitation of Activities Of Daily Living (ADLs), which has a major negative role in QOL (Franca et al., 2011).

People with spinal cord injury have to relearn the basic things for daily activities and prepare to cope with an increased incidence of many health problems. In spinal cord injury neurogenic bowel and bladder, respiratory symptoms and complications, cardiovascular complications, pressure ulcers, altered sexual functioning, urinary tract infections, autonomic dysreflexia, neuropathic pain, osteoporosis and fractures are common. They often have to cope with altered social roles and depression and anxiety disorders; for these issues it becomes a challenge for them to live all and these greatly affect quality of life. (Tulsky et al., 2015).

The measurement of Quality of life (QOL) can give information about the health status beyond diagnosis, impact of the disease and its management on different domains of life (Geyh et al., 2010). Rabadi et al. (2013) suggested that in Canada the QOL is significantly decreased in persons with SCI as compared to other people, and it was found that younger age, employment and lack of hospitalisation played an important role for a better quality of life. Chronic illnesses such as diabetes, renal disease, chronic pulmonary diseases and pressure ulcers have an effect on quality of life of persons with SCI (Saadat et al., 2010). It was mentioned that QOL after SCI is not uniformly worsen if there is any recovery outcomes then the health status becomes well but not average as the normal individuals (Hill et al., 2010). There are many factors that contributes for experiencing QOL (Hammell, 2007). Mental health, mobility, employment, accessibility of the external environment, social support and coping is related with QOL of persons with SCI. (Geyh et al., 2010).

It is difficult to define Quality of Life but it can be described as a determination of the individual's satisfaction with life; QOL of spinal cord injured is much lower than normal normal individuals and persons with SCI has poor health status, poor physical functioning role and poor social and poor emotional role where there is no relationship

between the neurologic level, the completeness of Spinal Cord Injury and the subjective Quality of life (Tonack et al., 2008).

QOL is not related to the severity of SCI but it is related to perceived health, participation and integration, to social support and relationships as well as to living circumstances, e.g. accessibility or income. The QOL of a person who sustained spinal cord injury (SCI) seems to be diminished compared to the general population. (Geyh et al., 2010).

Now-a-days, health professionals pay most interest QOL is and is known and used as an index to measure health status in health research that can be reduced subsequent complications such as anxiety and depression (Hammell, 2007).

The assessment of QOL is important because by this health team can boarden their opinions, different healthcare programs and policies can be done by them. (Aquarian & Faro, 2014).

The subjective approach to measuring QOL assumes that QOL can only be determined by the individual. The objective approach to assessing QOL evaluates characteristics that can be impartially measured by an external appraiser; As improved QOL, be it subjective or objective, is indicative of the success of treatment programs or progress in the life of an SCI patient, it should be routinely measured among SCI patients (Hill et al., 2010).

Spinal cord injured persons either paraplegic or tetraplegic leads a poor quality of life. The Physiological problems as well as Psychological problems hamper the normal activities of daily living and overall Quality of life and delays the phase of rehabilitation (Robertovich et al., 2017).

The level of injury plays a major impact on persons QOL. It is shown that at the beginning of rehabilitation the physical QOL scores is lower. The scores is higher in the time of discharge after rehabilitation (Paper, 2014).

For increase quality of life Rehabilitation is important. But the rehabilitation programme do not affects everyone's quality of life in same manner. It varies person to person according to their level of injury (Hammell, 2007).

1.2 Rationale

After hearing the word Women some weak words come to our mind“Exploitation and Exploitation”. Women are just selling things.They are prepared from the childhood to be dominated by their husband.Actually society dominate women.In every walk of life, women are subject of oppression.Household,Educational,Institutional etc. in every aspect they are facing discriminations. In this comperate world, women are fighting to establish themselves. They are treated as a” Showpiece” of a drawing room and this is their image.

Spinal cord injury is a major cause of disability in Bangladesh.Male affected more than female. But different literature shows that the numbers of spinal cord women are increasing day by day. Women affected by spinal cord injury become disabled .As women in Bangladesh are dominated by a “traditional“social system and treated as second class citizens,those with a disability are even more vulnerable. They face double discrimination being female and also having disability.

SCI is the most life threatening health issue all over the world and which affects the quality of life of individuals. In general population SCI and it’s complications are very common, affecting up to 12.1–57.8 cases per million per year worldwide .The word quality of life needs to be explained here because the quality of life is an important consideration of medical care. SCI causes disability and affects activities of daily living.SCI affects patient’s mobility, self care, physical functioning, and social functioning, as well as mental status also. After this study physiotherapist will get an idea which level of Quality of life patient will have after SCI . In CRP a large number of people attend to get physiotherapy treatment due to spinal cord injury among them a significant number of patients is women. But the aim of the treatment does not succeed always due to patient’s Quality of life

Now-a-days Women`s health is an important major interest of investigator .But there are no enough research to explore the quality of life of women after spinal cord injury to their own community after completing their rehabilitation.So,it is a crying need for the researcher for such a research in this area.And by using this research ,the researcher will be able to know how women with SCI deal in everyday activities.This study will also focus on how is their physical,social and emotional status after SCI.This study will be an attempt to find out the impact of spinal cord injury over Quality of life of women in Bangladeshi perspective.

1.3 Research Question

What is the quality of life of women with SCI after returning to the community completing rehabilitation from CRP?

1.4 Aim

To find out the quality of life of women's with spinal cord injury after returning to the community completing rehabilitation from CRP.

1.5 Objectives

- To determine the socio-demographic information of the participants.
- To evaluate the physical functioning level of the participants.
- To identify the role-physical ability of the participants.
- To find out the bodily pain status of the participants.
- To detect the general health status of the participants
- To explore the vitality status of the participants.
- To measure the social functioning capacity of the participants.
- To see the role-emotional status of the participants.
- To assess the mental health condition of the participants.
- To find out the association between the socio-demographic information and the domain of SF-36v2

1.6 Conceptual Framework

Independent Variables

Socio-demographic Variables
Such as age, occupation etc.

Physical Functioning (PF)

Role Emotional (RP)

Bodily Pain (BP)

General Health (GH)

Vitality (VT)

Social Functioning (SF)

Role Emotional (RE)

Mental Health (MH)

Health Transition (HT)

Dependent Variable

Quality Of Life (QOL)

1.7 Operational Definitions

Spinal cord: Cylindrical mass of nervous tissue running through spinal column.

Spinal cord lesion: It is damage to the spinal cord. It may result from direct injury to the cord itself or indirectly from damage to surrounding bones, tissues, or blood vessels.

Tetraplegia: Paralysis of the arms, legs, and trunk of the body below the level of an associated injury to the spinal cord.

Paraplegia: Paraplegia describes complete or incomplete paralysis affecting the legs and possibly also the trunk, but not the arms.

Disability: A physical or mental condition that limits a person's movements, senses, or activities.

Rehabilitation: The action of restoring someone to health or normal life through training and therapy after imprisonment, addiction, or illness.

Community: The definition of community is all the people living in an area or a group or groups of people who share common interests.

Quality of life: Quality of life (QOL) is the observation of life satisfaction focusing on physical, health, family, education, employment, wealth, religious beliefs, finance, environment etc. in every aspect of life. It is general well-being of individuals and societies, exploring both positive and negative features.

Physical health: It is the soundness of the body, freedom from disease or abnormality. It includes pain present in the body, how much physical health interferes in ADL, limitation in bathing or dressing, energy, tiredness etc.

Mental status: Mental health refers to our cognitive, and/or emotional wellbeing. It includes depression, sadness, happiness, how much emotional problem interferes in ADL, satisfaction with relationship etc.

Spinal cord injury is a devastating condition and it is an event which is costly and occurs suddenly and unexpectedly in human and social life. After this event some complications are developed which are lifethreatening. (Islam et al., 2011). Spinal cord injury causes neurological damage which may be permanent or resolving in the neural elements of spinal canal (New & Marshall, 2013). The incidence of spinal cord injury lies down between 10.4 and 83 per million people affected per year (Kennedy & Chessell, 2013).

Spinal cord injury causes radical changes in lifestyles causing major disability (Kawanishi & Greguol, 2013). According to Wyndaele & Wyndaele (2007), worldwide prevalence has been estimated to range between 223 and 755 per million people and because of improved survival rates, SCI prevalence is increasing. On the basis of a national data base of 30,822 SCI people in the United States, life expectancy of persons with SCI has been shown to increase over the past 30 years, with mortality rates reducing by approximately 40% in the first 2 years after the injury (Saadat et al., 2010).

Causes of spinal cord injury are not same and it varies from country to country. According to Spinal cord injury statistics (2003), the person who died during accident is not included in annual incidence of spinal cord injury (SCI), is approximately 40 cases per million population in the U. S. or approximately 12,000 new cases each year; Most important cause is Falls (41%) and RTA (36.8%); Beside these sharp trauma 2.7%, sports 11.6%, collision/lifting 4.2%, nonspecific trauma 3.3% are also included. According to Spinal cord injury (2007), In Australia about 52% injury occurs due to transports and 29% accounted for falls in most cases of traumatic SCI. Other cause includes working for income, sport, travelling etc. Falling was the most common type of event leading to traumatic SCI at older ages.

There are about 262,000 persons people are alive after spinal cord injury in United States in 2009. The causes includes vehicular 41.3%, falls 27.3%, violence 15%, sports 7.9%, other/unknown cause 8.5% (Spinal Cord Injury Facts and Figures at a Glance, 2010). In India the most common cause of injury was fall from height including roof, trees, and

electricity pole (44.5%) followed by motor vehicle accidents (34.7%). In second and third decades falls were more prominent. RTA were common in third and fourth decade (Singh et al., 2003).

Divanoglou & Levi, (2009), in Greece, leading cause of spinal cord injury was transportation accident (51%), fall were 37%, iatrogenic 4%, assault 2%, sports related injury include diving in (4%) and other in (2%). Divanoglou & Levi, (2009) shows in Sweden the leading cause of injury was fall occurred in (47%). Transportation accident occurred in (23%), sports injury including diving (17%), iatrogenic in (4%), assault in (4%) and other cause.

There are about 85,556 peoples living with spinal cord injury. Of them 51% occurs due to traumatic causes and 49% occurs due to non-traumatic causes. There is about 4,259 newcases per year of SCI in Canada. Of this total, 42% SCI occurs due to traumatic cause and 58% occurs due to non-traumatic cause (Farry & Hansen, 2010). Chabok et al. (2009) suggested that in Iran the most common cases of spinal injuries are motor vehicle accidents (52%) and fall (43%); fall injuries occurs due to falling heavy objects on spine and other mechanism also.

In Finland the mean annual incidence for entire population was 13.8/1000 000, about 23.8/1000 000 person for men and for women 4.6/1000 000. The most common cause were fall (41.2%) and traffic (39.5%). Other causes involved violence in 2.7% and other in 10% (Ahoniemi et al., 2008).

The rate of incidence of SCI In china was 23.7/1000 000 in year from 2004 to 2008. The most common cause of injury was fall (56.9%) which include high and low fall. Another common cause was motor vehicle accident (34.1%). Other cause includes 6.3% of being struck by an object, 1.4% of assault 0.8% of work accident and 0.2% was sports related injury (Ning et al., 2011).

Nwankwo & Uche (2013) showed that, The 31-45 years age group is the most frequently affected in SCI and female is less affected than male (4.3:1), 53% injury occurred in cervical spine, 22% thoracic spine and 25% lumbar spine injury.

The incidence, prevalence and cause of SCI is differ from developing and developed countries. He suggests that management and preventative strategies depends on regions. In western countries, the number of elderly people are increasing day by day and SCI is common due to fall.This has become a public health challenge (Tetreault, 2014)

In Bangladesh, the mean life expectancy of spinal cord injury was 5.36 years. 56.4% people with SCI died within 5 years after admission to the hospitals.43.6% survived 5 or more years after injury. In a study in CRP in Bangladesh it has been shown that the most vulnerable age group were 20-40 which covers 55.6% of persons with SCI.SCI is less common below the age 20 years and above the age 50 years in this country. 79.75% were paraplegia and 20.25% were tetraplegia. Causes wereTraumatic (86.1%) and non-traumatic (13.9%) origin.18% is due to falling while carrying a heavy load on the head among traumatic injury, usually resulting in tetraplegia (Razzak et al., 2011).In another study in Bangladesh it has been found that , 63% of SCI is caused by falling from a height (Hoque et al.,2012)

Since 2010,Traumatic SCI(TSCI) results from motor vehicle collisions (36.5%), falls (28.5%), violence (14.3%) and sports (9.2%) activities being leading causesThe rehabilitation of people of SCI not only focused on loss of function but also their quality of life (Geyh et al., 2010).

Non-traumatic SCI(NSCI) is less severe injury than the non-traumatic injury.Because Incomplete injuries are common in non-traumatic and it has better prognosis for neurologic improvement resulting most commonly paraplegia.Complete injury are common in traumatic causes and it has not good prognosis for neurologic developmentresulting tetraplegia most of the time (Gupta et al.,2009). Both for tetraplegia and paraplegia need adequate health care planning (Gurcay et al., 2010).

Spinal cord injured persons experienced many of serious health problems known as secondary health conditions (SHCs). These physical or psychological health conditions are influenced directly or indirectly by the presence of a disability or underlying physical impairment SHCs in SCI persons are bladder and bowel disorders, pressure ulcers, spasticity, upper-extremity pain, and cardiovascular and respiratory problems. SHCs lead

to lower life expectancy than normal individuals. So, it is very important to be aware and to know the long term health consequence in the persons with SCI (Krause et al.,2011).

In a study it has found that about 71% people had bladder problem, 61% bowel regulation, 57% spasms, 55% pain pressure ulcers are also in a major percentages. Most prevalent SHCs were musculoskeletal pain (63.5%), oedema (38.7%), neuropathic pain (34.1%) and urinary tract infections (33.3%). Among them only oedema shows association with increasing time. But percentages will be not same for all study. It will be varied from study to study. Despite this, most of the study confirm the frequent occurrence of SHCs. (Adriaansen et al., 2016)

SCI persons reported not feeling well than of normal populations. They score lower in all domains which are important for life quality including physical, mental and social health. People with a SCI tend to report fewer feelings of well-being, on average, than non-disabled persons; score lower on physical, mental, and social health, and in other domains of life that people consider important to life quality (Rabadi et al., 2013). Thus, quality of life and well-being and their determinants, have become important outcomes in SCI research and have been widely assessed (Hill et al., 2010).

Siddal et al. (2016) in his study done measurement by using BPI both in SCI and Non-SCI group; there was significant differences in their activities between SCI and non-SCI group due to pain (23.3 ± 19.5). Pain interfere the daily activities both in paraplegia and tetraplegia and there was no significant differences between (24.4 ± 19.6). This study showed that mild pain interfere less than moderate to severe pain in the daily activities and there was significant difference between pain related disability of two groups (7.2 ± 7.2). So, there is activity limitation that indicates lower quality of life.

Persons with SCI have to experience different secondary health condition during life time and have to relearn the basic things. They often have to cope with altered social roles and depression and anxiety disorders; for these issues it becomes a challenge for them to live all and these greatly affect quality of life. (Tulsky et al., 2015).

According to Spinal Cord Injury Facts and Figures at a glance (2012); the prevalence of spinal cord injury among male is about 80.6% at National database but in 1980 the prevalence was 81.8%. So, it has proved that the number of SCI among male is decreasing and subsequently it told that the number of SCI in females are increasing. Haque et al. (1999) suggested the prevalence of SCI in women was 12% and Rahman et al. (2017) suggested the amount of SCI in women was 13.2%. So, it is very much clear to us the number of SCI in women are increasing by these study.

According to Bangladesh Bureau of Statistic Study, about 10 million of women are abused both physically and sexually in each year. Tavoli et al. (2016) estimated that 30% women are abused by their male partner. In a study it has been found that depression is more common in women than men. (Indicators et al., 2000). Asaduzzaman et al. (2015) stated that Women are neglected in their society and their quality of life is not same as men. And with disability the women become more vulnerable and their quality of life also decreased more.

The word Quality Of Life (QOL) is a phenomenon which is not easily understood by medicine but we often use the term. Different literature suggested three approaches for measurement of QOL: 1) Health related quality of life (HRQOL), 2) well-being, and 3) QOL as a superordinate construct (Post & Noreau, 2005). The measurement of Quality of life (QOL) can give information about the health status beyond diagnosis, impact of the disease and its management on different domains of life (Geyh et al., 2010).

The expression “Quality of Life” (QOL) was first used by the president of the United States, Lyndon Johnson stated that “these goals cannot be measured by the size of our bank balances. They can only be measured in the quality of the lives that our people lead”. At first the interest in concepts such as “standard of living” and “Quality of Life” was shared by social scientists, philosophers and politicians. Thus, human and biological sciences were concerned with the definition of “Quality of Life”. It should value parameters that go beyond controlling symptoms, reducing mortality or increasing life expectancy (Gurcay et al., 2010). The assessment of QOL is important because by this health team can boarden their opinions, different healthcare programs and policies can be done by them (Aquarian & Faro, 2014).

Spinal cord injury also triggers altered urinary and fecal elimination, resulting from the loss of urinary and anal sphincter control and the consequent changes in the pattern of these eliminations, as well as alterations deriving from clinical complications like urinary infections, calculus and hydronephrosis (Gurcay et al., 2010). These problems not only alter human beings' physical and psychological conditions, but also hamper victims' sexual and reproductive capacity (Tulsky et al., 2015). Society tends to boost the impact of SCI. As a rule, researchers study the quality of life of SCI patients, addressing issues related to social relations and male reproduction (Ducharme et al., 2010). Few rehabilitation institutions offer a sexual counselling program where Sexual dysfunction also affects the Quality of Life and, as literature reports, these programs focus on sexual education and information regarding the repercussions of SCI for the sexual function (Tulsky et al., 2015).

In a study shows the awareness regarding the concept of QOL that a large majority (72%) of British health care professionals associated QOL with happiness. The other most often mentioned descriptions included elements of social (26%), physical (25%), or mental (18%) health or functioning (Tonack et al., 2008).

During the past few decades, advances in medical care are enabling persons with SCI to survive the initial injury and to prolong their life expectancy post-SCI. The need for outcome measures assessing health and QOL after rehabilitation is, therefore, becoming increasingly important (Smith et al., 2013). It is clear that simple outcomes-assessing function are insufficient in measuring rehabilitation after SCI (Hill et al., 2010) and in capturing the adaptation of perceptions and values in patients after SCI (Smith et al., 2013). In fact, it has been suggested that high levels of QOL is synonymous with positive rehabilitation outcomes, and many agree that QOL should be measured with traditional outcomes assessing functional rehabilitation (Tulsky et al., 2015). Such measurements provide different yet complimentary information that aid clinicians in their efforts to help those with SCI.

Tartar et al. (2011) stated that quality of life is 'a multi-faceted construct that encompasses the individual's behavioural and cognitive capacities, emotional well being and abilities requiring the performance of domestic, vocational and social roles. In a study of Ducharme et al. (2011) it has found that Quality of life is therefore a dynamic concept that not only incorporates physical, psychological and social domains, but individual perceptions and values of their role function.

Tonack et al. (2008) found that there was no significant correlation between life satisfaction and extent of paralysis. However, life satisfaction appeared to be associated with issues of social integration, mobility and locus of control.

The subjective approach to measuring QOL assumes that QOL can only be determined by the individual. The objective approach to assessing QOL evaluates characteristics that can be impartially measured by an external appraiser; As improved QOL, be it subjective or objective, is indicative of the success of treatment programs or progress in the life of an SCI patient, it should be routinely measured among SCI patients (Hill et al., 2010). By rehabilitation, we can improve quality of life of individual's but the rate is different in person to person.(Hammel,2007).

3.1 Study design

A cross-sectional descriptive study was performed with structured questionnaires and interviews were conducted with women's having spinal cord injury (SCI). This study design was appropriate to find out the objectives. The objectives of the study has demanded the association between demographic factors and quality of life, for this reason cross sectional study is the best way to find out the relation between those .The data was collected all at the same time or within a short time frame.

3.2 Study area

Data was collected from women with SCI in the community who completed rehabilitation programme from Centre for the Rehabilitation of the Paralysed, Savar, Dhaka. CRP is the biggest hospital and renowned rehabilitation centre for Spinal Cord Injury (SCI) among South Asia. It is being worked for persons with disabilities to reintegrate them at their community life. The investigator was chose different districts of Bangladesh as a study area for collecting data. Researcher was explained every participant about the research aim and objectives. Researcher was taken sampling from those who willingly participated in this research.

3.3 Study population

It was the group of interest to the researcher, the group whom the researcher would like to generalize the result of the study. The target population was Spinal cord injured women's who completed their rehabilitation from CRP and lived in community in different districts in Bangladesh.

3.4 Sampling technique

Sampling refers to the process of selecting the subjects or individual. The researcher used convenient sampling technique, considering the inclusion and exclusion criteria. After taking permission from the ethical body of BHPI, the investigator collected a list of people of spinal cord injured women completing rehabilitation from CRP. Those participants had fulfilled inclusion criteria acts as the participants of the study.

3.5 Inclusion Criteria

- Women with spinal cord injury completing rehabilitation from CRP
- Both paraplegia and tetraplegia were included
- Both traumatic and non-traumatic injury were include

3.6 Exclusion Criteria

- The spinal cord injured women who were not discharged from CRP.
- Any impairment that influences daily function (cognitive and mental impairment)
- Age above 70 years
- Undiagnosed injury
- Any other major disease except SCI

3.7 Measurement tools

A socio-demographical informative questionnaire was developed by researcher to collect data. A Standardized questionnaire/tool named the Short Form-36 (SF-36) is a 36 item questionnaire which measures Quality of Life across eight domains. Beside these Pen, Paper, File, Pencil, and Calculator were used in the conduction of this study.

3.8 Sample size

When the sample frame is fixed,

The equation of finite population correction in case of cross sectional study is:

$$n = \frac{z^2 pq}{d^2}$$
$$= \frac{(1.96)^2 \times 0.5 \times 0.5}{(0.05)^2}$$

=384

Here,

Z (confidence interval) = 1.96

P (prevalence) =50%

And, q= (1-p)

$$= (1-0.5)$$

$$=0.5$$

The actual sample size was, n= 384.

As it is academic thesis, self-funding and data was collected from different districts in Bangladesh by considering the feasibility and time limitation 50 sample were selected because that number is very easy for me to collect and to analyse the data.

SF-36

The Short Form-36 (SF-36) is a 36 item questionnaire which measures Quality of Life (QOL) across eight domains, which are both physically and emotionally based and it is a structured, self-report questionnaire. The eight domains that the SF-36 measures are as follows: physical functioning, role physical, bodily pain, general health, vitality, social functioning, role emotional and mental health. It is the most widely used measures to predict quality of life (Post & Noreau, 2005). Results showed that the SF-36 questionnaire was reliable and valid (Zhang et al., 2012). Each scale is directly transformed into a 0-100 scale on the assumption that each question carries equal weight the scale 0-100 is subdivided into four sections. Score 0-25 indicates very poor status, Score 26-50 indicates poor status, Score 51-75 indicates fair status and Score 76-100 indicates good status of all domains (Ware et al., 2000).

Table -1: Scoring Categories of SF-36v2 scale

Score	Status
Score (0-25)	Very poor
Score (26-50)	Poor
Score (51-75)	Fair
Score (>75)	Good

3.9 Duration of data collection

Data was collected carefully and confidentiality and maintained all ethical considerations. The researcher gave each participant a particular time to collect the data. Each questionnaire took approximately 20-25 minutes to complete.

3.10 Data collection Procedure

The questions were asked in face to face interviews. It was useful because this technique ensures that the researcher will obtain all the information required, while at the same time it gave the participants freedom to respond and illustrated concept. The researcher gave each participant a particular time to collect the data'

3.11 Data analysis

The collected data were processed and analyzed in the statistical package for the social sciences (SPSS) v20.0 for windows. The analysis focused on quality of life of the patient. There was no any cut point for SF-36v2 subscales; higher score represent higher quality of life. Researcher analyzed the data by descriptive statistics using frequency (n), percentage(%), diagram and also shown the associations by nonparametric test which was Chi square (χ^2) Test.

Chi square (χ^2) Test

Chi square (χ^2) Test is the most popular discrete data hypothesis testing method. It is a non-parametric test of statistical significance for bivibrate tabular analysis with a contingency table. In this study Chi square (χ^2) test was done to measure the associations between two variables. It was used to test the statistical significance of results reported in bivariate tables.

3.12 Ethical considerations

The proposal of the dissertation including methodology was submitted to the Institutional Review Board (IRB) of Bangladesh Health Professions Institute (BHPI) and permission was taken from IRB to conduct the study. The whole process of this research project was done by following the Bangladesh Medical Research Council (BMRC) guidelines and World Health Organization (WHO) Research guidelines. Verbal and written inform consent will take from every patient. And ensure every patient that they can leave any time during data collection, & it was ensured that participants were not influence by data collector. The researcher strictly maintained the confidentiality regarding participant's condition and treatments. The study was conducted in a clean and systematic way. Every

subject had the opportunity to discuss their problem with the senior authority or administration of CRP and have any questioned answer to their satisfaction.

3.13 Informed consent

Written consent (appendix) was given to all participants prior to completion of the questionnaire. The researcher explained to the participants about his or her role in this study and aim and objective of this study. The researcher received a written consent from every participants including signature. So the participant assured that they could understand about the consent from and their participation was on voluntary basic. The participants were informed clearly that their information would be kept confidential. The researcher assured the participants that the study would not be harmful to them. It was explained that there might not a direct benefit from the study for the participants but in the future cases like them might be get benefit from it. The participants had the rights to withdraw consent and discontinue participation at any time without prejudice to present or future care at the spinal cord injury (SCI) unit of CRP. Information from this study was anonymously coded to ensure confidentiality and was not personally identified in any publication containing the result of this study.

4.1 Socio-demographic Information

4.1.1 Age Groups

Among 50 participants 18% (n=9) were paraplegia and 10% (n=5) were tetraplegia of age range 10-19 years, 16% (n=8) were paraplegia and 12% (n=6) were tetraplegia of age range 20-29 years, 14% (n=7) were paraplegia and 6% (n=3) were tetraplegia of age range 30-39 years, 12% (n=6) were paraplegia and 4% (n=2) were tetraplegia of age range 40-49 years, 0% (n=0) were paraplegia and 4% (n=2) were tetraplegia of age range 50-59 years, 2% (n=1) were paraplegia and 2% (n=1) were tetraplegia of age range 60-69 years

Table-2: Age of the participants

Age Range (Years)	Frequency(n)		Percentage (%)	
	Paraplegia	Tetraplegia	Paraplegia	Tetraplegia
10-19Yrs	9	5	18%	10 %
20-29Yrs	8	6	16 %	12 %
30-39Yrs	7	3	14 %	6 %
40-49Yrs	6	2	12 %	4 %
50-59Yrs	0	2	0 %	4 %
60-69Yrs	1	1	2 %	2 %
Total	31	19	62 %	38 %

4.1.2 Marital Status of the Participants

Among 50 participants, majority were married 46% (n=23) , unmarried were 34% (n=17), divorced were 16% (n=8), widow were 4% (n=2).

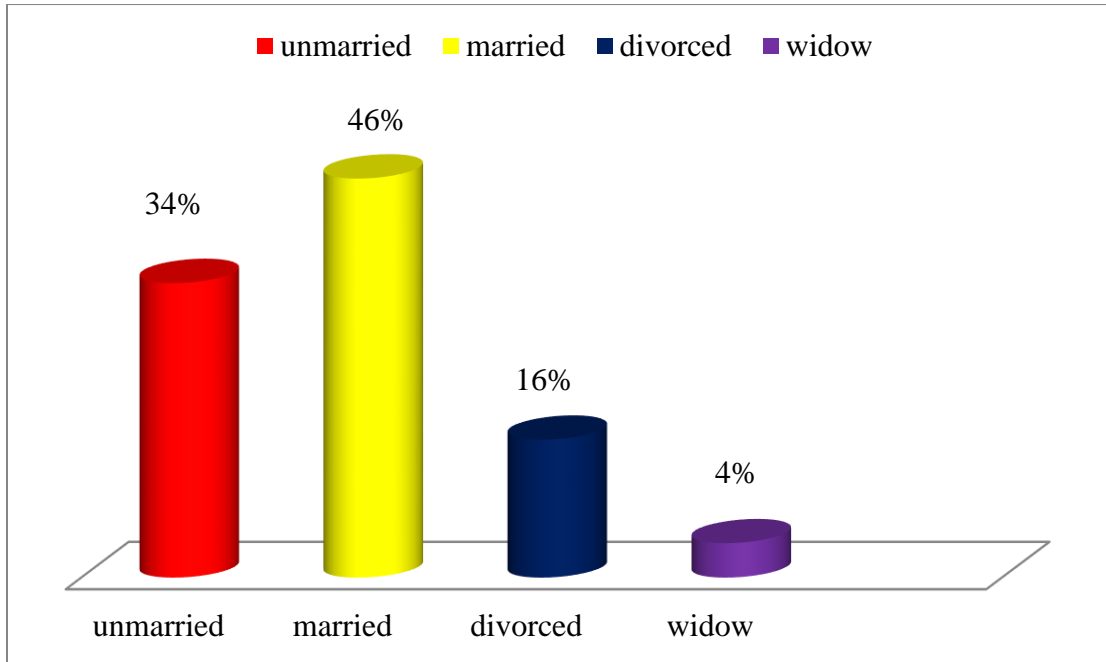


Figure-1: Marital Status

4.1.3 Educational status of the participants

Among 50 participants, most of the participants were primarily educated and its number was 34% (n=17), 28% (n=14) participants were in secondary level, 16% (n=8) were illiterate, 14% (n=7) went to higher secondary level, 4% (n=2) had completed honours and only 4% (n=2) participants had gone through masters.

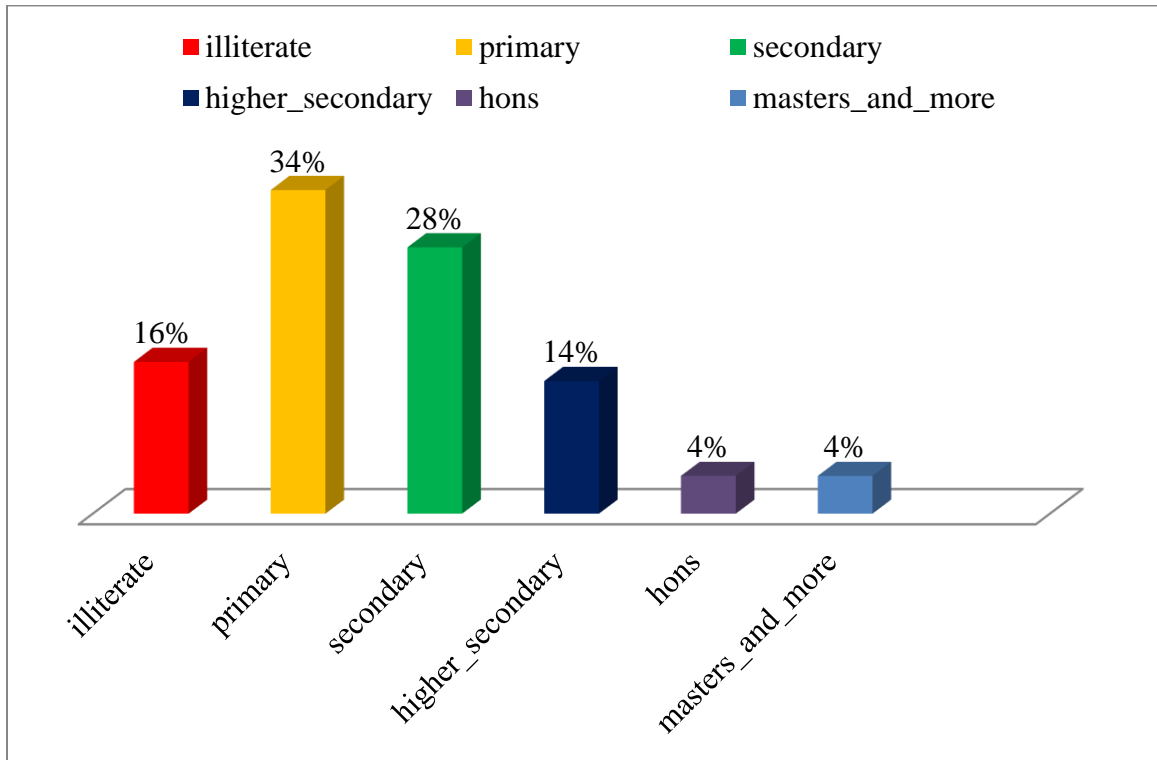


Figure-2: Educational Status

4.1.4 Residential area of the participants

Out of fifty participants, 54% (n=27) of the participants lived in rural area and 46% (n=23) of the participants lived in urban area

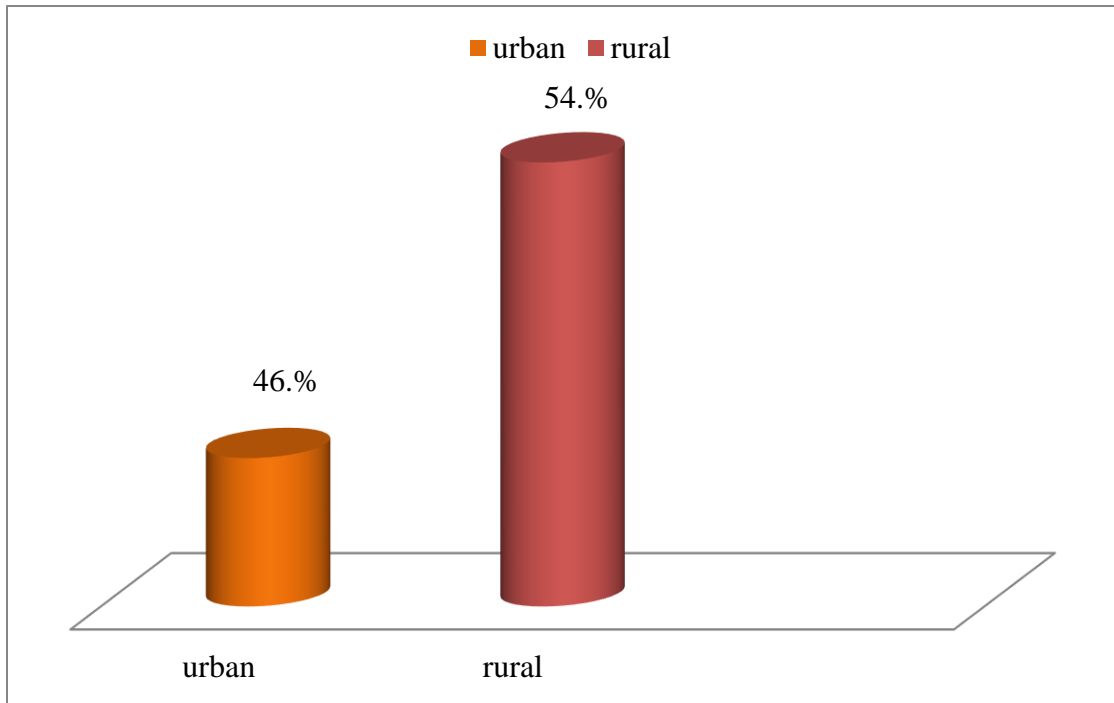


Figure-3: Residential Area

4.1.5 Occupation of the participants

Among 50 participants, about 36% (n=17) of the participants were unemployed, 28% (n=14) of the participants were housewife, 22% (n=10) of the participants were students, 14% (n=7) of the participants were having job.

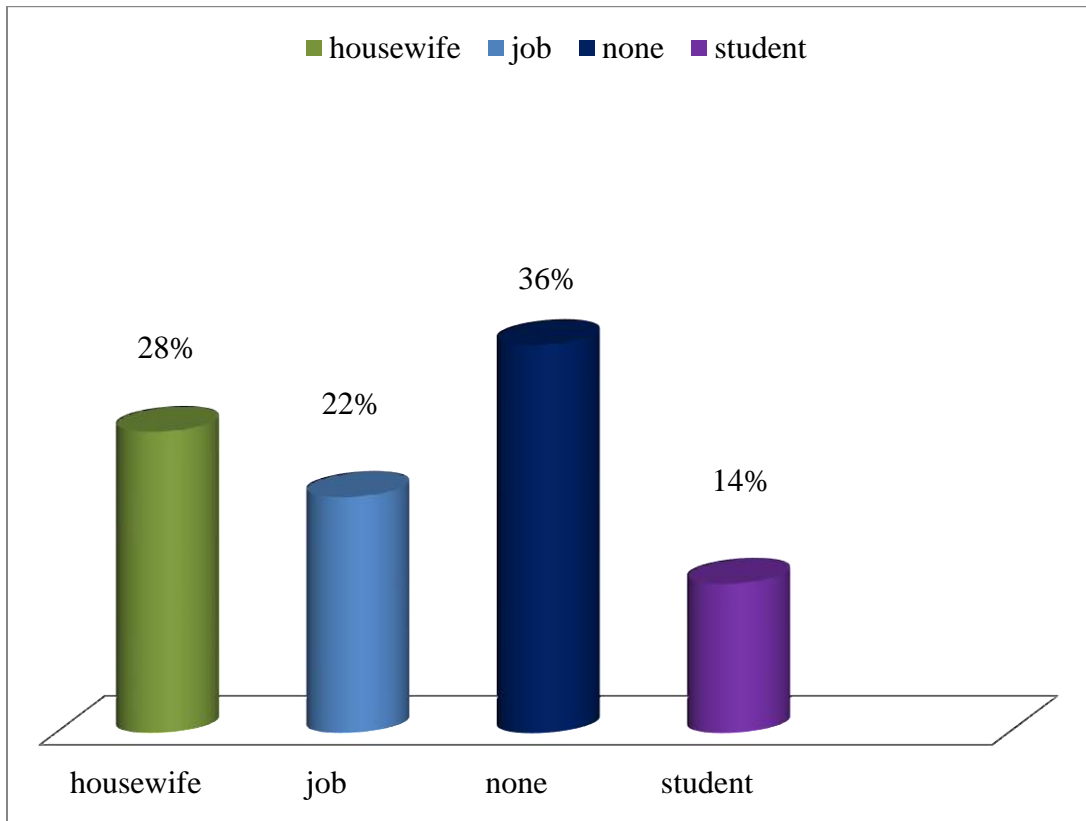


Figure-4: Occupation

4.1.6 Causes of spinal cord injury

Out of 50 participants, 82% (n=41) spinal cord injury occurred due to traumatic causes and 18% (n=9) spinal cord injury occurred due to non-traumatic causes.

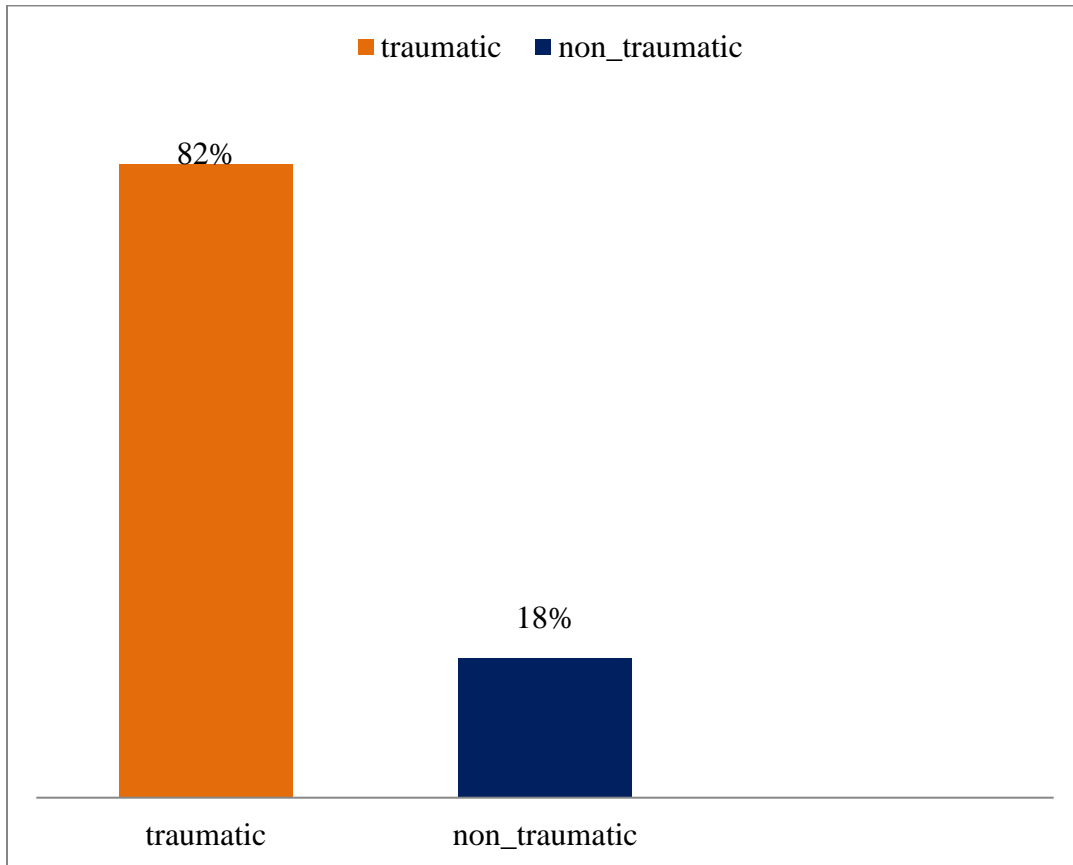


Figure-5: Causes of injury

4.1.7 Type of paralysis

Among 50 participants, 62% (n=31) participants were paraplegic and 36% (n=19) participants were tetraplegic.

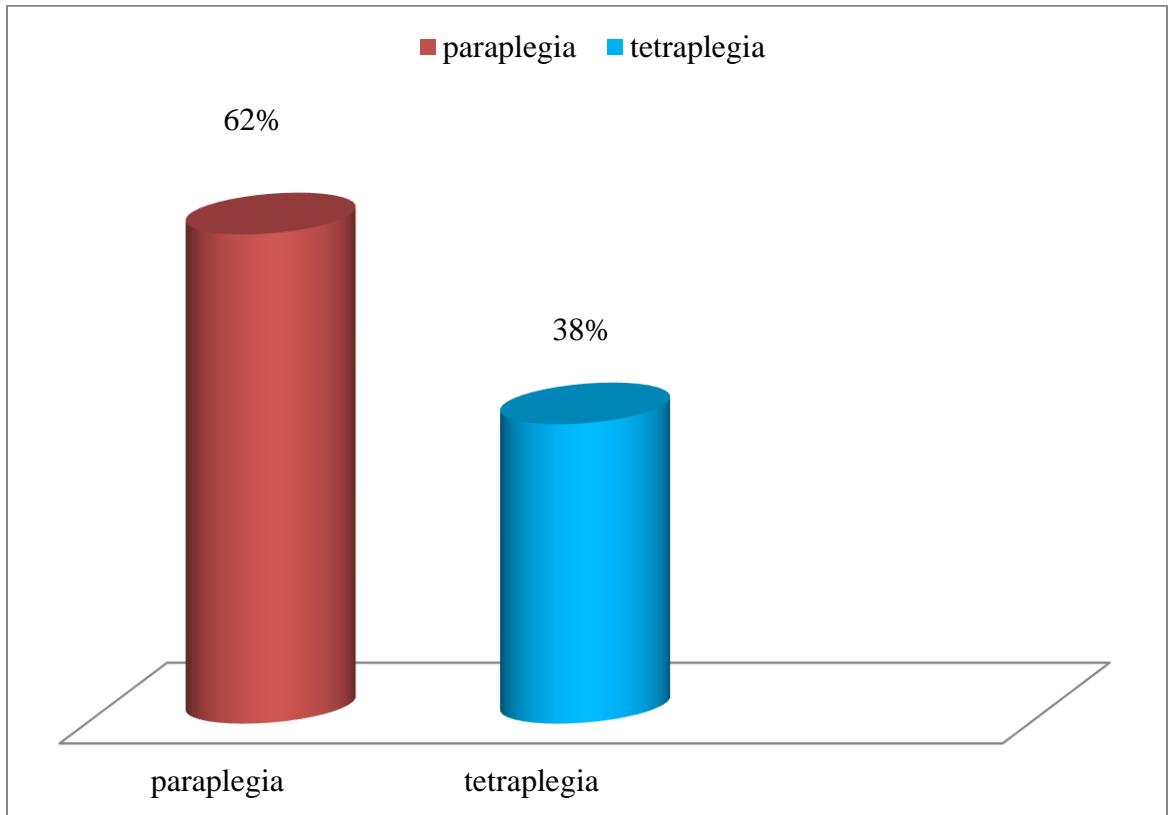


Figure-6: Types of paralysis

4.2 Physical Functioning

Content of the 10-item PF scales reflects the importance of distinct aspects of physical functioning and the necessity of sampling a range of severe and minor physical limitation. The presence and extent of physical limitation are measuring by three level response. Low scores indicate significant limitation in performing physical activities while high score reflects little or no such limitations. In this study, Total participants were 50 and among them 100% (n=50) scored <50 at an average out of 100 which denotes Poor physical functioning in the SF dimensions. Among them, 88% (n=44) who scored <25 at an average out of 100, 12% (n=6) who scored <50 at an average out of 100.

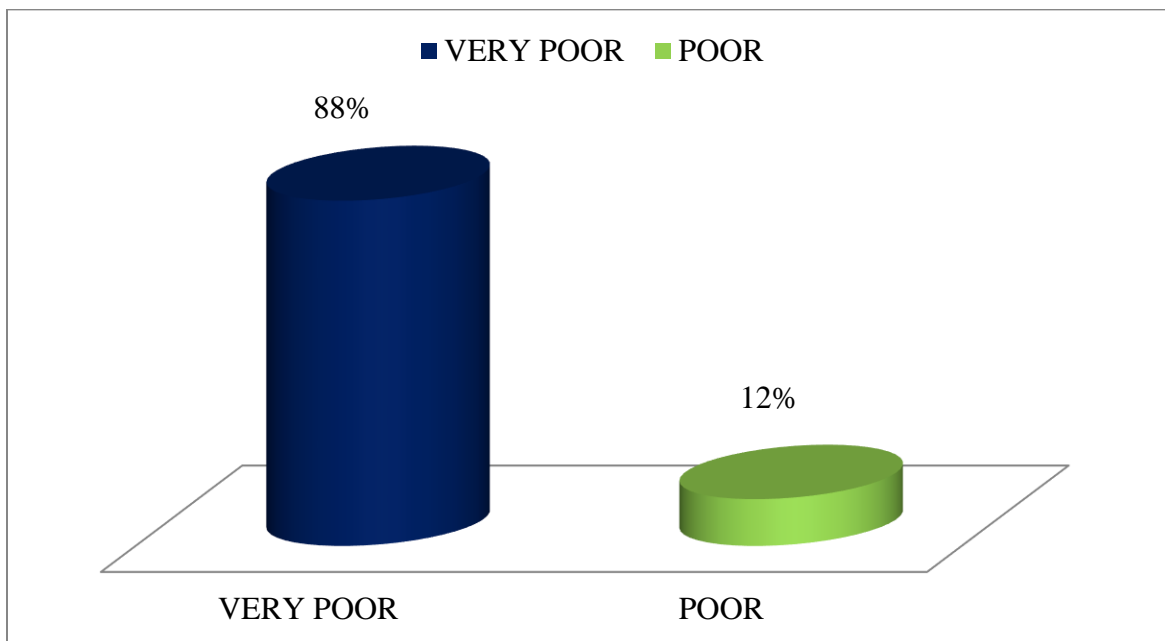


Figure-7: Physical Functioning of the participants

4.3 Role Physical

The four-item scale covers an array of physical health-related role limitations. The presence and extent of physical health-related role limitations are measured by five level responses. In this study, Role limitations 100% (n=50) of participants due to physical health were very poor role physical for 8% (n=4) who scored <25 at an average out of 100, Poor role physical was 38% (n=19) who scored <50 at an average out of 100. Fair role physical for 46% (n=23) who scored <25 at an average out of 100, good role physical was 8% (n=4) who scored <50 at an average out of 100.

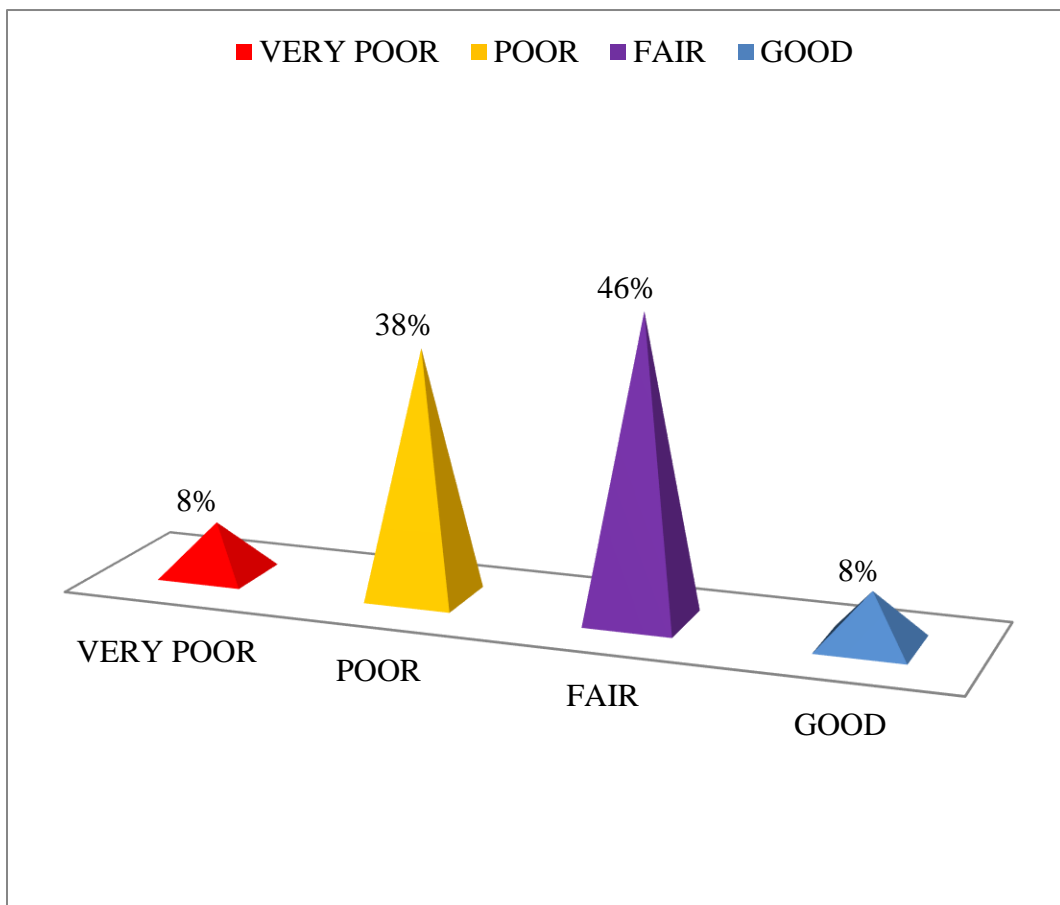


Figure-8: Role limitation due to physical health of the participants

4.4 Bodily Pain

The BP scale comprises two-items: one pertaining to the intensity of bodily pain and another one measuring the extent of interference with work activities due to pain. Low scores indicate high levels of pain that impact normal activities, whereas high scores indicate no pain and no related impact on normal activities. In this study, Among the 50 participants, 18% (n=9) scored <50 at an average out of 100 which denotes poor physical status due to pain, 46% (n=23) scored more than 50 at an average out of 100 which claims fair physical status and 36% (n=18) scored more than 75 at an average out of 100 which claims good physical status through the short form-36 scoring system.

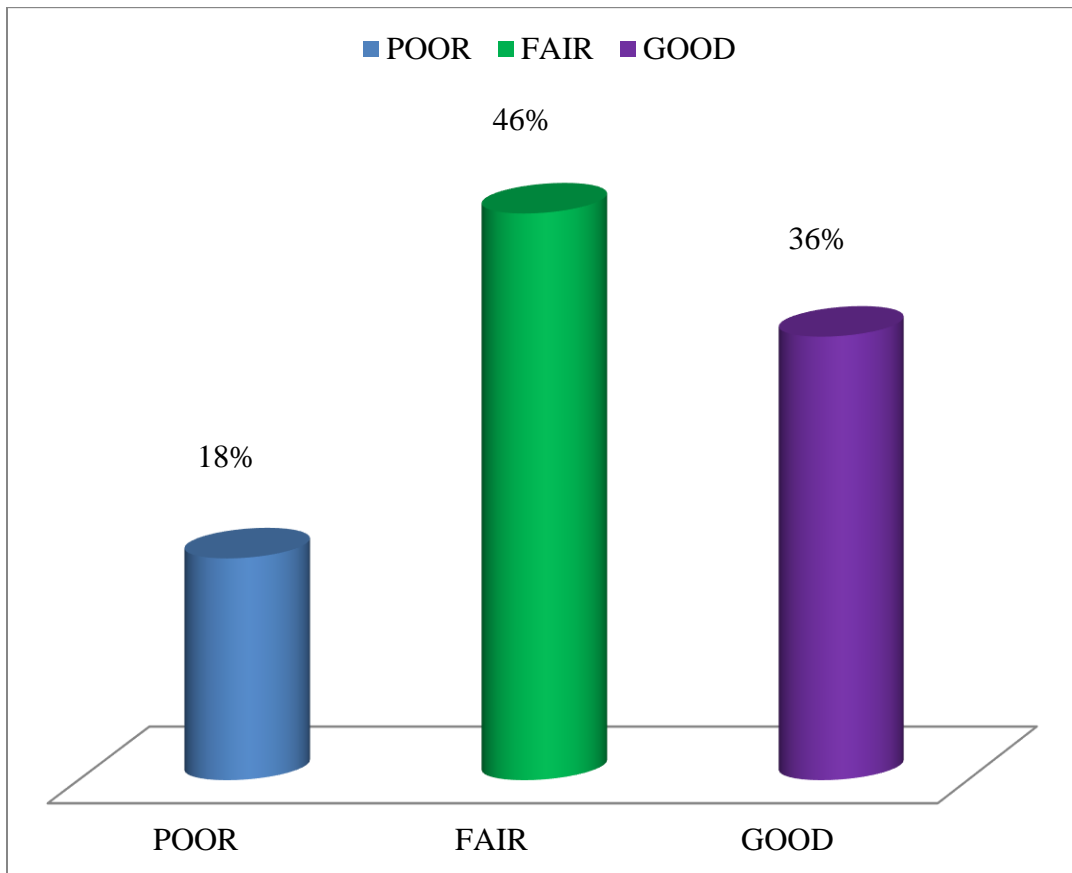


Figure-9: Bodily pain of the participants

4.5 General Health

The GH scale consists of five items, including rating of health and four items addressing the respondent's views and expectations of her health. Low scores indicate evaluation of general health as poor and likely to get worse. High scores indicate that the respondent evaluates her health most favourably. Among the 50 participants, 26% (n=13) scored less than 25 at an average out of 100 which denotes very poor general health, 72% (n=36) scored less than 50 at an average out of 100 which claims poor general health and 2% (n=1) scored less than 50 at an average out of 100 which claims fair general health through the short form-36 scoring system.

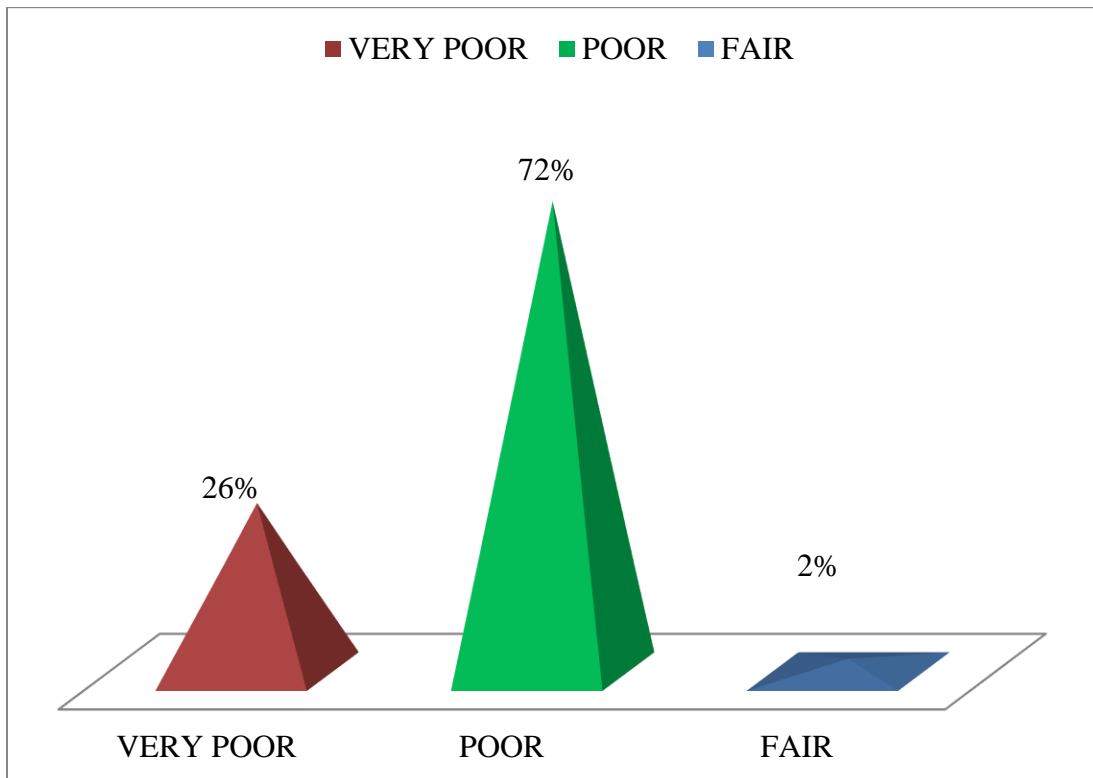


Figure-10: General health of the participants

4.6 Vitality

The four-item measure of vitality was developed to capture differences in subjective well-being. Low scores indicates feeling of tiredness and being worn out, High scores feeling full of energy all or most of the time. Among the 50 participants, 8% (n=4) scored less than 25 at an average out of 100 which denotes very poor vitality, 62% (n=31) scored less than 50 at an average out of 100 which denotes poor vitality, 30% (n=15) scored more than 50 at an average out of 100 which denotes fair vitality through the short form-36 scoring system.

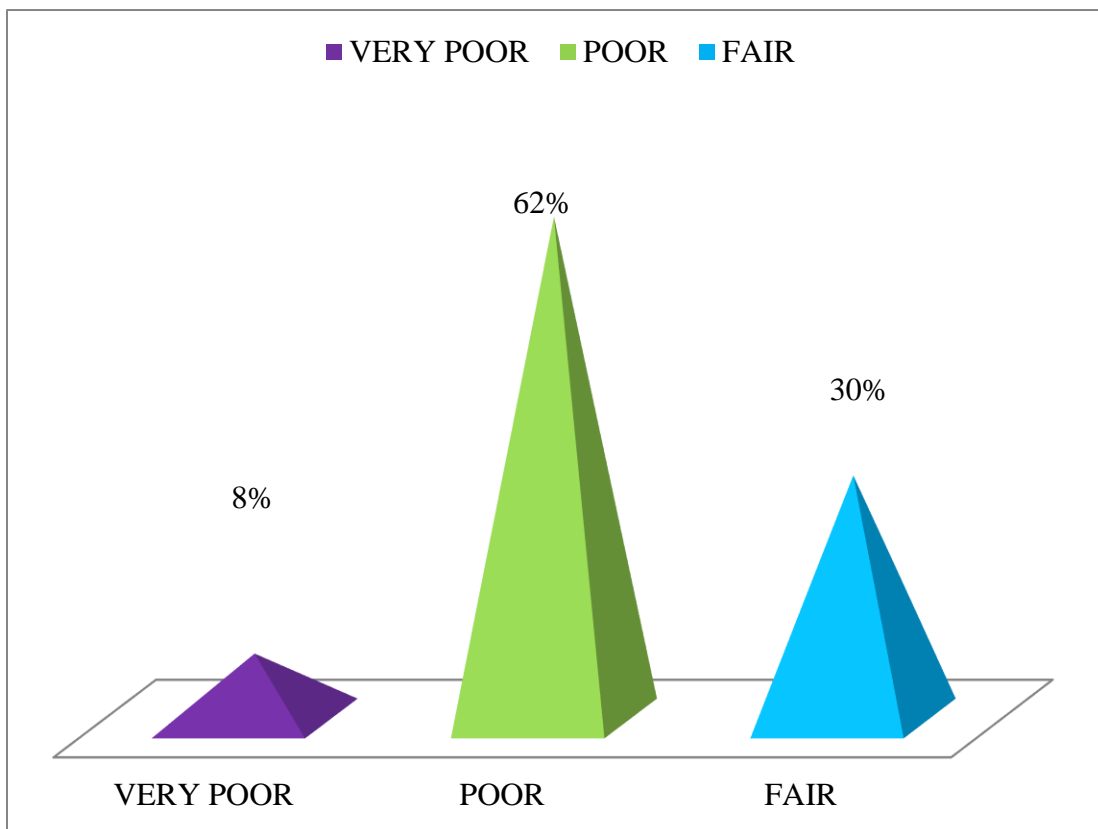
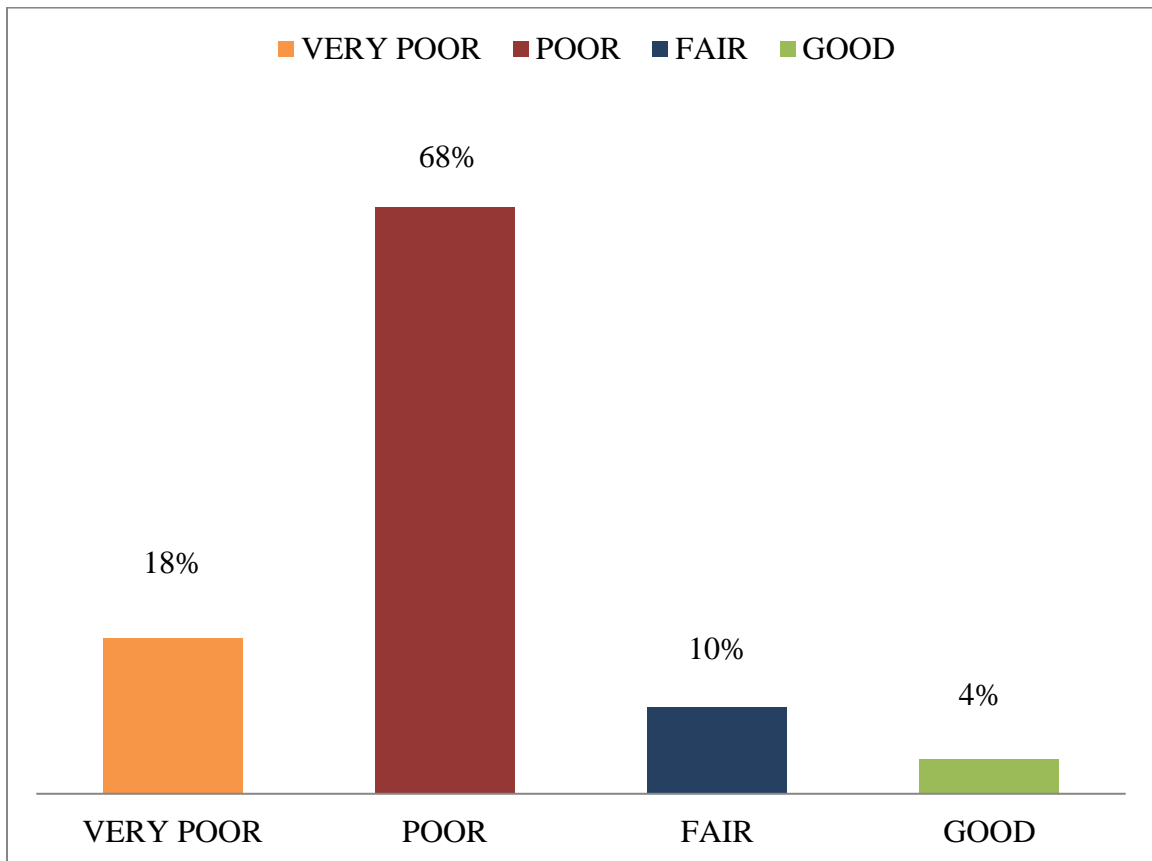


Figure-11: Vitality of the participants

4.7 Social Functioning

This two-item scale assesses health related effects on quantity and quality of social activities. The lowest score equates to extreme or frequent interference with normal social activities due to physical and emotional problems; highest score indicates that the individual performs normal social activities without interference from physical or emotional problems. Among the 115 participants, 18% (n=9) scored less than 25 at an average out of 100 which denotes very poor social functioning 68% (n=34) scored less than 50 at an average out of 100 which denotes poor social functioning, 10% (n=5) scored more than 50 at an average out of 100 which denotes fair social functioning, 4% (n=2) scored more than 50 at an average out of 100 which denotes good social functioning through the short form-36 scoring system.



Figure– 12: Social functioning of the participants

4.8 Role Emotional

The three-item scale assesses mental health-related role limitations. Low scores on this scale reflect problems with work or other activities as a result of emotional problems. High scores reflect no such limitations due to emotional problems. Among the 115 participants, 8% (n=4) scored less than 25 at an average out of 100 which denotes very poor role of emotion, 28% (n=14) scored less than 50 at an average out of 100 which denotes poor role of emotion, 60% (n=30) scored more than 50 at an average out of 100 which claims fair role of emotion and 4% (n=2) scored more than 75 at an average out of 100 which claims good of emotion through the short form-36 scoring system.

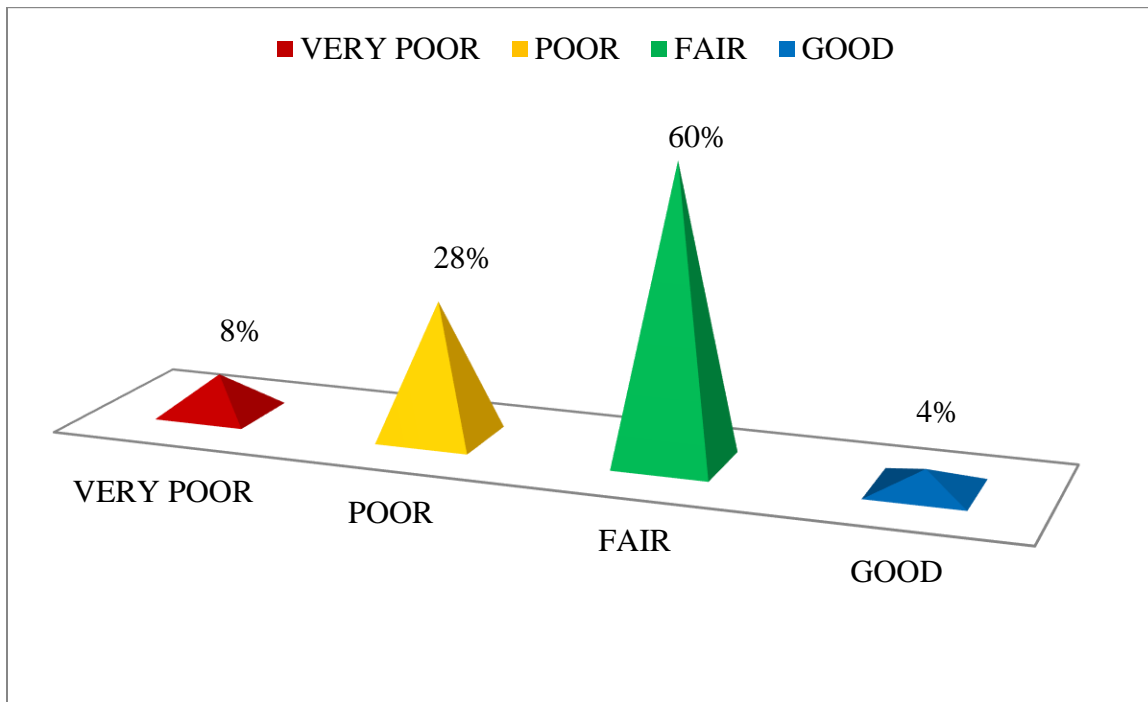


Figure-13: Role emotional of the participants

4.9 Mental Health

The five-item MH scale includes one or more items from each of four major mental health dimensions. Low scores on MH are indicative of frequent feeling of nervousness and depression, whereas high scores indicate feeling of peace, happiness and calm all or most of the time. Among the 50 participants, 8% (n=4) scored less than 25 at an average out of 100 which denotes very poor mental health, 66% (n=33) scored less than 50 at an average out of 100 which claims poor mental health, 26% (n=13) scored more than 50 at an average out of 100 which claims fair mental health, through the short form-36 scoring system.

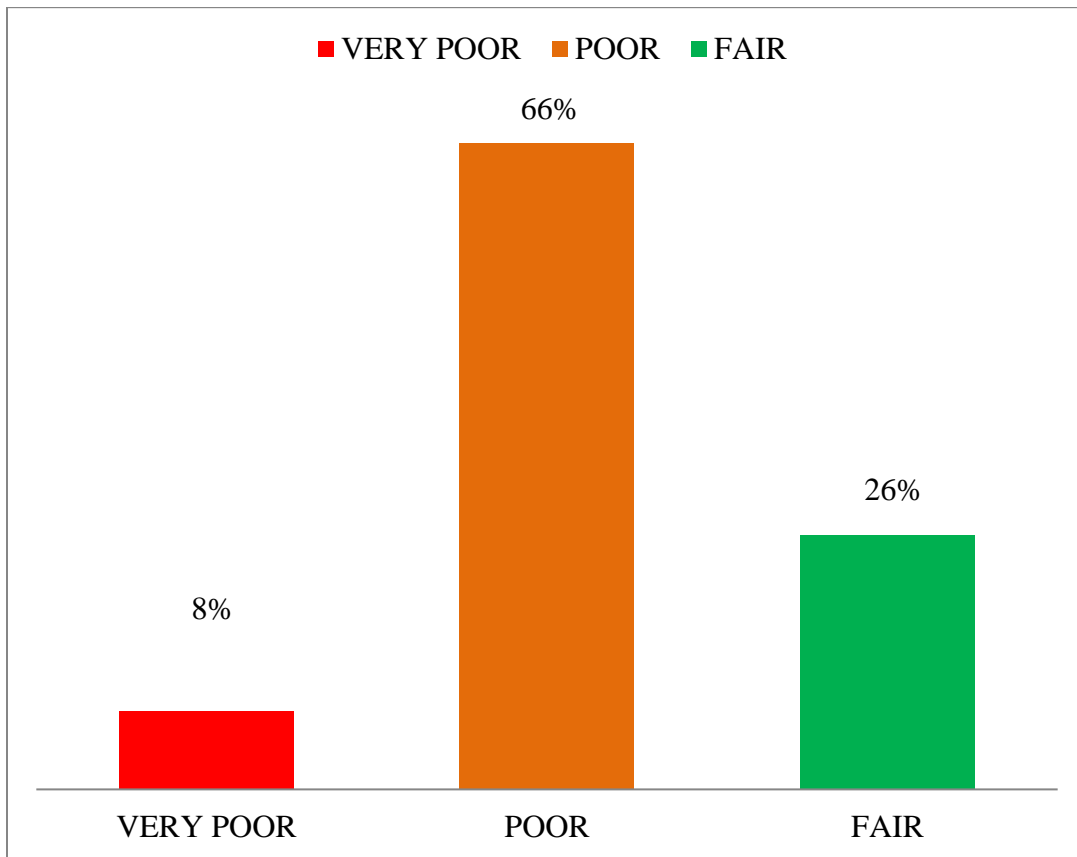


Figure-14: Mental health of the participants

4.10 Health Transition

A general health item asks respondents to rate the amount of change they experienced in their health over a one year period on the standard (4-week) form or over a 1-week period on the acute (1-week) form. This item is not used to score any of the health domain scales or component summary measures; however it does provide useful information about perceived changes in health status that occurred during one year.

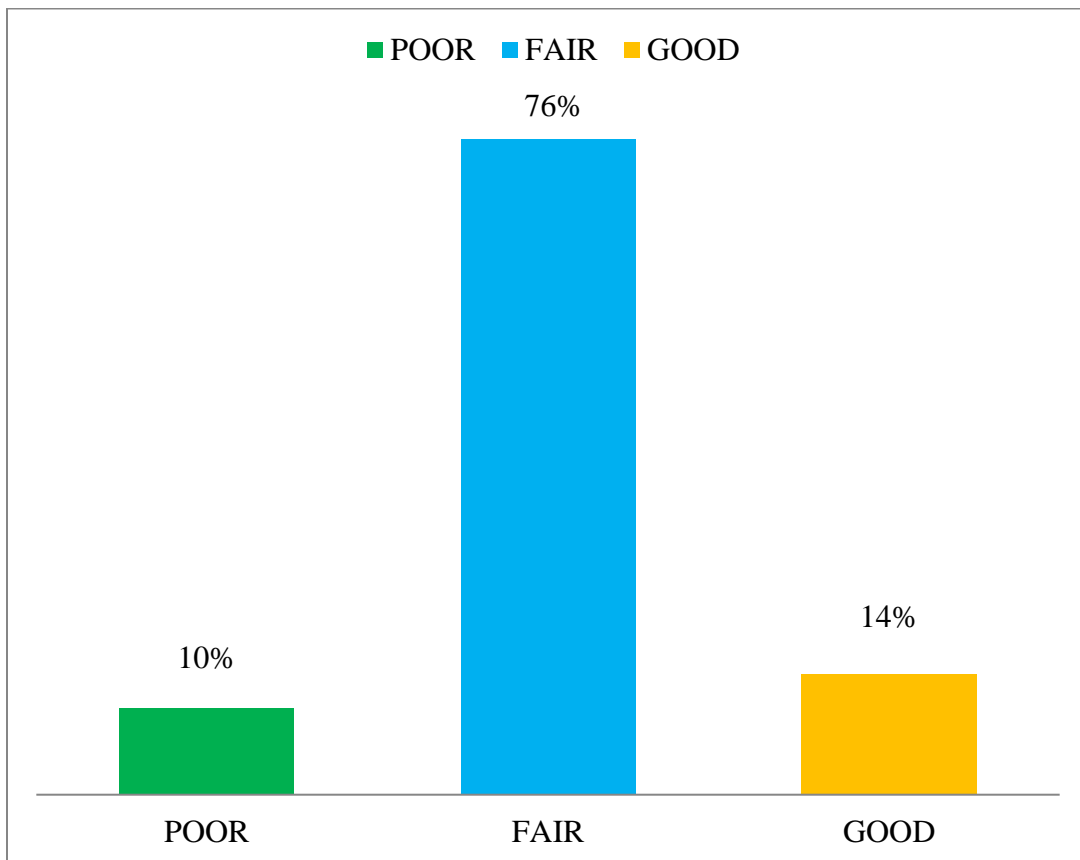


Figure-15: Health Transition of the participants

4.11 SF-36v2 Score Tabulation (Physical functioning, Role Physical, Bodily Pain, General Health, Vitality, Social Functioning, Role Emotional, Mental Health)

Table-3: Score tabulation of all components of SF-36

Scale	Minimum	Maximum	Mean	Standard Deviation(±)
Physical Functioning (PF)	0	45	18.9	9.55
Role Physical(RP)	18.75	93.75	55.0	15.42
Bodily Pain(BP)	32.50	100	67.15	19.63
General Health (GH)	10	60	33.90	12.14
Vitality (VT)	20	75	46.30	12.56
Social Functioning (SF)	0	87	44.50	17.70
Role Emotional (RE)	25.00	100	58.84	15.37
Mental Health (MH)	16.00	72	43.76	13.85

When the mean score is near about 100, like 70, 80, 90, it means the quality of life of Survivors is good & when the score is poor like 30, 40, it means the quality of life of Survivors is poor.

Among the participants mean of the bodily pain was 75.40 and according to SF-36 this range was good; the mean of role physical was 55.0, role emotional was 58.84, mental health was 43.76, social functioning was 44.50, vitality was 46.30 and according to SF-36 these range denotes moderate score and the general health of participants mean was 33.90, physical functioning was 18.90 and according to SF-36 these range denotes poor.

4.12 Evaluation of SF-36 Component in type of paralysis of women

Table-4: Evaluation of SF-36 components in paraplegic women

Type of paralysis	SF-36v2 component	Percentage (%)
Paraplegia (n=31)	Physical Functioning(PF)	Very Poor (80.65 %) Poor (19.35%)
	Role Physical (RP)	Poor (32.24%) Fair54.84%) Good(12.90%)
	Bodily Pain(BP)	Poor(16.12%) Fair(51.52%) Good (32.26%)
	General Health(GH)	Very poor(19.36%) Poor(48.37%) Fair(12.90%)
	Vitality(VT)	Very poor(3.22%) Poor (61.29%) Fair (35.48%)
	Social Functioning(SF)	Very poor(9.67%) Poor(80.64%) Fair(9.67%)
	Role Emotional(RE)	Poor (41.93%) Fair(51.62%) Good(4.45%)
	Mental Health(MH)	Poor (6.45%) Fair (54.84%) Good(25.80%)

In above table among 31 paraplegic women, In physical functioning, average percentage of female patients were 80.65% (n=25) who scored less than 25 and 19.35% (n=6) who scored less than 50 which indicates very poor and poor status of physical functioning; In role physical, average percentage of female patient were 32.24% (n=10) who scored more than 25; 54.84% (n=17) who scored more than 50 and 12.90% (n=4) who scored more than 75 which indicates poor, fair and good status of role physical; In bodily pain, average percentage of female patients were 16.12% (n=5) who scored less than 50; 51.52% (n=16) who scored more than 50 and 32.26% (n=10) scored more than 75 which indicates poor, fair and good status in bodily pain; In general health, average percentage of female patients were 19.36% (n=6) who scored less than 25; 48.37% (n=15) who scored more than 25 and 12.90% (n=4) who scored more than 50 which indicates very poor, poor and fair status of general health; In vitality, average percentage of female patients were 3.22% (n=1) who scored less than 25, 61.29% (n=19) who scored less than 50 and 35.48% (n=11) who scored more than 50 which indicates very poor, poor and fair vitality; In social functioning, average percentage of female patients were 9.67% (n=3) who scored less than 25; 80.64% (n=25) who scored more than 25 and 9.67% (n=3) who scored more than 50 which indicates very poor, poor and fair social functioning; In role emotional, average percentage of female patients were 41.93% (n=13) who scored less than 50; 51.62% (n=16) who scored more than 50 and 4.45% (n=2) who scored more than 75 which indicates poor, fair and good status of role emotional; In mental health, average percentage of female patients were 19.36% (n=6) who scored less than 50; 54.84% (n=17) who scored more than 50 and 25.80% (n=8) who scored more than 75 which indicates poor, fair and good mental health.

Table-5: Evaluation of SF-36 components in tetraplegic Women

Type of paralysis	SF-36v2 component	Percentage (%)
Tetraplegia (n=19)	Physical Functioning (PF)	Very poor(100%)
	Role Physical (RP)	Poor (68.42%) Fair(31.58%)
	Bodily pain (BP)	Poor(70.43%) Fair(29.57%)
	General Health (GH)	Very poor (36.85%) Poor(57.89%) Fair(5.26%)
	Vitality (VT)	Very poor(15.80%) Poor(63.15%) Fair(21.05%)
	Social Functioning (SF)	Very poor(31.57%) Poor(47.37%) Fair (21.05%)
	Role Emotional (RE)	Very poor(21.05%) Poor(5.27%) Fair(73.68%)
	Mental Health (MH)	Very poor (21.05%) Poor (42.10%) Fair(36.85%)

In above table among 19 tetraplegic women, In physical functioning 100% (n=19) scored less than 25 which indicates very poor status of physical functioning; In role physical, average percentage of female patients were 68.42% (n=13) who scored less than 50 and 31.58% (n=6) who scored more than 50 which indicates poor and fair status of role physical; In bodily pain, average percentage of female patients were 70.43% (n=14) who scored less than 50 and 29.57% (n=5) who scored more than 50 which indicates poor and fair status in bodily pain; In general health, average percentage of female patients were 36.85% (n=7) who scored less than 25; 57.89% (n=11) who scored more than 25 and 5.26% (n=1) who scored more than 50 which indicates very poor, poor and fair status of general health; In vitality, average percentage of female patients were 15.80% (n=3) who scored less than 25; 63.15% (n=12) who scored less than 50 and 21.05% (n=4) who scored more than 50 which indicates very poor, poor and fair vitality; In social functioning, average percentage of female patients were 31.58% (n=6) who scored less than 25; 47.37% (n=9) who scored more than 25 and 21.05% (n=4) who scored more than 50 which indicates very poor, poor and fair social functioning; In role emotional, average percentage of female patients were 21.05% (n=4) who scored less than 25, 5.27% (n=1) scored less than 50 and 73.68% (n=14) who scored more than 50 which indicates very poor, poor and fair of role emotional; In mental health, average percentage of female patients were 21.05% (n=4) who scored less than 25; 42.10% (n=8) who scored less than 50 and 36.85% (n=7) who scored more than 50 which indicates very poor, poor and fair mental health

4.13 Association between type of paralysis(Tetraplegia) and major Components of SF-36v2 : Physical Functioning (PF), Role Physical (RP), Bodily Pain (BP), General Health (GH), Vitality (VT), Social Functioning (SF), Role Emotional (RE), Mental Health (MH)

Table-6: Association between type of paralysis (Tetraplegia) and SF-36

Type of paralysis	SF-36 Component	Chi-square Value (χ^2)	P-value	Significance
Tetraplegia (n=19)	Physical Functioning (PF)	19.000	0.000	Significant
	Role Physical (RP)	48.356	0.001	Significant
	Bodily Pain (BP)	19.000	0.000	Significant
	General Health (GH)	76.000	0.000	Significant
	Vitality (VT)	70.626	0.000	Significant
	Social Functioning (SF)	57.725	0.000	Significant
	Role Emotional (RE)	25.529	0.004	Significant
	Mental Health (MH)	83.178	0.026	Significant

In above table, Association found between the type of paralysis (Tetraplegia) and all the component of SF-36v2 which were statistically significant ($p < .05$).

This result indicates that all the components of SF-36 had great impact on tetraplegic female patients.

4.14 Association between type of paralysis (Paraplegia) and major Components of SF-36v2 : Physical Functioning (PF), Role Physical (RP), Bodily Pain (BP), General Health (GH), Vitality (VT), Social Functioning (SF), Role Emotional (RE), Mental Health (MH)

Table-7: Association between type of paraplegic women and SF-36

Type of Paralysis	Component of SF-36v2	Chi-square Value	P-Value	Significance
Paraplegia (31)	Physical Functioning(PF)	92.294	0.000	Significant
	Role Physical (RP)	93.000	0.001	Significant
	Bodily Pain (BP)	71.068	0.000	Significant
	General Health (GH)	62.000	0.000	Significant
	Vitality (VT)	62.005	0.080	Not-significant
	Social Functioning (SF)	61.096	0.005	Significant
	Role Emotional (RE)	65.030	0.06	Not-significant
	Mental Health (MH)	45.291	0.01	Significant

In above table, Association found between the type of paralysis (Paraplegia) and all the component of SF-36v2 which were statistically significant ($p < .05$) except Vitality ($p > .08$) and Role Emotional ($p > .06$)

This result indicates that most of the components of SF-36 had great impact on paraplegic female patients except Vitality and role emotion.

4.15 Association between residential area of the participants (Urban) and major Components of SF-36v2 : Physical Functioning (PF), Role Physical (RP), Bodily Pain (BP), General Health (GH), Vitality (VT), Social Functioning (SF), Role Emotional (RE), Mental Health (MH)

Table-8: Association between residential area (Urban) and SF-36

Residential Area	SF-36 Component	Chi-square Value (χ^2)	P-value	Significance
Urban (46%)	Physical Functioning (PF)	8.460	0.489	Not-significant
	Role Physical (RP)	8.879	0.542	Not-significant
	Bodily Pain (BP)	12.973	0.295	Not-significant
	General Health (GH)	11.850	0.296	Not-significant
	Vitality (VT)	8.632	0.656	Not-significant
	Social Functioning (SF)	10.865	0.093	Not-significant
	Role Emotional (RE)	6.975	0.431	Not-significant
	Mental Health (MH)	20.832	0.106	Not-significant

No association found between residential area (Urban) and all the component of SF-36 which was not statistically significant ($P > 0.05$).

Residential area (urban) has no effect on quality of life of women.

4.16 Association between residential area of the participants (rural) and major Components of SF-36v2 : Physical Functioning (PF), Role Physical (RP), Bodily Pain (BP), General Health (GH), Vitality (VT), Social Functioning (SF), Role Emotional (RE), Mental Health (MH)

Table-9: Association between residential area(Rural) and SF-36

Residential area	Component of SF-35v2	Chi-square Value	P-value	Significance
Rural (54%)	Physical Functioning (PF)	16.000	0.087	Not-significant
	Role Physical (RF)	38.356	0.004	Significant
	Bodily Pain (BP)	19.065	0.076	Not-significant
	General Health (GH)	65.897	0.056	Significant
	Vitality (VT)	53.430	0.437	Not-significant
	Social Functioning (SF)	32.765	0.263	Not-significant
	Role Emotional (RE)	54.654	0.765	Not-significant
	Mental Health (MH)	25.529	0.450	Not-significant

No association found between residential area (Rural) and most of the component of SF-36v2 which was not statistically significant ($P > 0.05$). Association found in Role physical ($p < .004$) and general health which statistically significant were ($P < 0.05$).

Residential area (Rural) has limited effect on quality of life of women with spinal cord injury.

Now-a-days quality of life has become a major topic of research in the area of health and the findings contribute to the definition and approval of treatments and evaluation of cost benefits of the Spinal cord injury patients. The QOL of women with SCI with health status was measured by the SF-36 and results showed a greater impact on the physical component than the mental component.

A quantitative study was used to assess quality of life of women with spinal cord injury. As this was a cross-sectional study, we consider this research as a preliminary study that can yield valuable information that may clarify many important questions related to spinal cord injury and their quality of life. The obtained results may lead to the elaboration of strategies to reduce the impact caused by the disease in the life and health of the persons with spinal cord injury.

About 50 participants were used as sample size in this study, age range from 10-70 years and it was found that age range between 10-30 covered the 50% of the participants which indicates that these age group is more vulnerable for spinal cord injury in our country.. Age less than 10 years and more than 70 years were not included. So, the average age of the study was 40. The majority of the participants in this study was married (44%) in the study. But unmarried was also in high percentage (38%). I also included divorced and widow women but was in smaller percentage. Paraplegic women were slightly in higher number (54%) than Tetraplegic women which indicates that the number of paraplegic women is higher.

Trgovcevic et al. (2014) in his study included total sample of 100 participants. 56 participants were from normal individuals, 44 participants were spinal cord injured including both male and female. Among them, 23 participants had an injury at thoracic, lumbar or sacral level of spinal cord (paraplegia), while 21 participants had cervical SCI and functional diagnosis of tetraplegia. The presence of male participants was dominant in all three groups. The average age of participants both group was 45.43 years (SD=10.56) and 41.38 years (SD=12.89), respectively. But in these research female participants mostly was at the age group 29-39. There was no statistically significant

difference between these three research groups in relation to age groups. Rahman et al. (2017) in his study took 2184 respondents' data among them 287 was female; In that study we have found that 42.16% participants were married and 7.56% were unmarried and rest 49.54% include others category but this result was for both male and female.

In Australia, in a study they used 265 participants as sample and among them tetraplegia were 143 (54%) and Paraplegia were 122 (46%). (Barker et al., 2009)

Hammell (2004) showed in a study of Canada that after rehabilitation people with spinal cord injury involved them in different occupation. That study involved 15 participants; among them 11 were male and rest 4 were female. The occupation of the participants was Full-time employment (2), self-employed (1), further education (5), other meaningful occupation (volunteer work, painting, computing, family commitments, pursuing legal action). Adriaansen et al. (2016) took 282 participants for a study related to spinal cord injury. In his study he found that about 91% of the participants got spinal cord injury by traumatic causes and 9% were for non-traumatic causes. In my study, most of the participants, about 82% got spinal cord injury by trauma and rest 18% got injured by non-traumatic cause among all the 50 participants in the research project. After injury most of the women (36%) were not involving themselves in work activities in both inside and outside. Of them (54%) women lived in rural areas.

In my study, subscale scores revealed the impact of subscale over the quality of life of spinal cord injured women. Here, subscale were divided into four categories addressing very poor status (<25), poor status (<50), fair status (<75), Good Status (>75). About 88% scored less than 25 which indicates very poor physical functioning; role limitation due to physical health was fair (46%) as it scored more than 50; bodily pain scored more than 50 which indicates fair status in 46%; general health was poor in (72%) as it scored less than 50; vitality scored was poor in (62%) as it scored less than 50; social functioning score was also poor and scored less than 50 in 68%; Role emotional scored more than 50 in 60% of the participants; mental health was poor in 66% as it scored less than 50. Here, only physical functioning scored very poor status. And by this result, it has shown that MCS have greater effect than PCS on women with spinal cord injury. But Rognoni et al. (2014) found that the subscale scores that revealed a stronger impact of

SCI were those related to the physical domains, especially for the physical functioning and physical role functioning subscales and these results are consistent with those reported in.

In my study, Association was done by using Chi-square in case of both paraplegia and tetraplegia women with SF-36 components. Here, association found between tetraplegic women and all components of SF-36 which were statistically significant ($p < 0.05$). Association found between paraplegic women and all component of SF-36 which were statistically significant ($p < 0.05$) but in case of Vitality the p value was 0.080 which was not statistically significant and the p value of Role Emotional was 0.06 which was not statistically significant. No significant differences were found between paraplegic and tetraplegic women. Rognoni et al. (2014) found that values for the SF-36. Statistically significant differences were shown for PF scores in the two disease phases ($p=0.01$) and the two patient status (inpatient or outpatient) ($p=0.005$), for GH in the two disease phases ($p=0.04$), for VT in males versus females ($p=0.048$), and for PSI in the patient's status ($p=0.032$). PF ($p=0.033$), RP ($p=0.008$), BP ($p=0.032$) and VT ($p=0.01$) scales reported statistically significant differences between two groups with different functional impairment (ASIA A or B versus ASIA C or D). No differences were highlighted between tetraplegic and paraplegic patients as reported in.

In a study of Trgovcevic et al. (2014) persons with SCI in Iran has found that the mean score of physical functioning was 10.11%, role limitation due to physical health was 50.00%, role limitation due to bodily pain was 55.82%, general health was 52.05%, vitality was 57.39%, social functioning was 62.22%, role emotional was 72.73%, and lastly mental health was 64.91%. Only physical functioning score is poor. The score of Role physical, Bodily pain, General health and Vitality are fair. The score of social functioning, role emotional and mental health are good. This Scenery is quite similar with results of my study. In my study, Only physical functioning score is poor; bodily pain and role emotional revealed good status and others components are fair.

Limitations

The samples were collected from women with SCI who completed their rehabilitation from CRP and the sample size was small, so the result of the study could not be generalized to the whole population of Spinal Cord Injury in Bangladesh. There was little evidence to support the result of this project in the context to Bangladesh. A convenience sampling was used that was not reflecting the wider population under study. I did not cover all the district and in my research but tried to uphold the present situation. The research project was done by an undergraduate student and it was first research project for her. So the researcher 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 supervisor and the honourable teacher. These limitations and barriers in this research project could affect the accuracy of the study.

6.1 Conclusion

Women affected by SCI are increasing day by day. Though the sample size is small and the drawbacks are identified in this study, this research provides valuable insight into the quality of life for women following SCI. In this study, we can found that the Quality of Life of women with spinal cord injury was remarkably lower in Physical functioning. Physical Functioning is much lower in tetraplegic patients than paraplegic. Role limitation due to physical health is mostly fair in paraplegic women but poor in tetraplegic women. Fair bodily pain was noticed in paraplegic women but in tetraplegic women it remains poor. Very poor role emotional status was found in tetraplegic women where there was fair emotional role status in most of the paraplegic women. Fair mental health status was noticed in paraplegic women but it was very poor in tetraplegic women. No significant different was found in general health, vitality and social functioning scale between paraplegic and tetraplegic women. In overall scaling, PCS is less affected than MCS in women with SCI.

Significant association was found in all component of SF-36v2 for tetraplegic women but in case of paraplegic women only vitality and role physical did not exclude any association with SF-36v2 components. No association was found between residential areas with SF-36v2 components but in case of rural area significant association was found role physical and general health.

Quality of life is a term used to evaluate individual's well-being in a wide range of contexts. For patients with SCI, achieving a satisfactory QOL is a primary goal of treatment and rehabilitation. But in different literature it was found that QOL of spinal cord injured women after rehabilitation was not improved significantly. A little change occurs in their life after rehabilitation. Along with rehabilitation, different awareness programme and proper counselling, necessary steps should be taken to improve the physical and mental health of women's with spinal cord injury, in order to improve their quality of life.

6.2 Recommendations

The aim of the study was to assess the quality of life of the women with SCI after their rehabilitation. Though the study had some limitations but investigator identified some further step that might be taken for the better accomplishment of further research. The main recommendations would be as follow:

The random sampling technique rather than the convenience sampling technique would be chosen in further in order to enabling the power of generalization the results.

Investigator used 50 participants as the sample of this study; in future the sample size would be more.

In this study, the investigator took the participants who complicated rehabilitation only from the one selected hospital of Savar as a sample for the study. So for further study investigator strongly recommended to include the SCI patients from all over the Bangladesh to ensure the generalize ability of this study.

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Appendix-A

IRB permission letter



বাংলাদেশ হেল্থ প্রফেশন ইনস্টিটিউট (বিএইচপিআই) Bangladesh Health Professions Institute (BHPI)

(The Academic Institute of CRP)

Ref: CRP-BHPI/IRB/07/18/1212

Date: 21/07/2018

To
Mousumi Akter Ruma
B.Sc. in Physiotherapy
Session: 2013-2014 Student ID:112130217
BHPI, CRP, Savar, Dhaka-1343, Bangladesh

Subject: Approval of the thesis proposal "Quality Of Life Of Spinal Cord Injured Women After Completing Rehabilitation From CRP" by ethics committee.

Dear Mousumi Akter Ruma,
Congratulations.

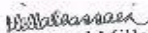
The Institutional Review Board (IRB) of BHPI has reviewed and discussed your application to conduct the above mentioned dissertation, with yourself, as the Principal investigator. The following documents have been reviewed and approved:

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

The purpose of the study is to know the quality of life of spinal cord injury women after completing their rehabilitation from CRP. The study involves use of a 36-Item Short Form Survey (SF-36) questionnaire to explore their quality of life that may take 20 to 25 minutes to answer the questionnaire and there is 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 11 AM on January 23, 2018 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
Assistant Professor, Dept. of Rehabilitation Science
Member Secretary, Institutional Review Board (IRB)
BHPI, CRP, Savar, Dhaka-1343, Bangladesh

সিআইপি-চাপাইন, সার, ঢাকা-১৩৪৩, বাংলাদেশ, ফোন : ৭৭৪৫৬৬৪-৫, ৭৭৪১৪০৪ ফ্যাক্স : ৭৭৪৫০৬৬

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

Appendix-B

Permission letter 1

Permission Letter

July 04, 2018

Head

Department of Physiotherapy,

Centre for the Rehabilitation of the Paralyzed (CRP),

Chapain, Savar, Dhaka.

Through: Head, Department of Physiotherapy, BHPI.

Subject: An application to obtain permission for data collection.

Dear Sir,

With due respect and humble submission I beg to state that, I am Mousumi Akter Ruma, student of 4th Professional B.Sc. In Physiotherapy at Bangladesh Health Professions Institute (BHPI). As per course curriculum, I need to complete a research project for completion of my B.Sc in physiotherapy program. Hence, I have to conduct a research project entitled "**Quality of life of spinal cord injured women after completing rehabilitation programme from CRP**" under honourable supervisor Mst. Fatema Akter, Senior Lecturer of Physiotherapy, BHPI, CRP, Savar, Dhaka. However, Ethical approval was taken from the Institutional Review Board (IRB) of Bangladesh Health Professions Institute (BHPI). As my research includes spinal cord injured women, I want to collect data from the Spinal Cord Injury Unit of CRP, Savar. For this reason, I need your permission for data collection. I would like to assure that anything of my study will not harmful for the participants.

I therefore, pray and hope that you would be kind enough to give me permission for data collection to make this research project successful.

Sincerely Yours,

Mousumi Akter Ruma

Mousumi Akter Ruma

4th Professional B.Sc In Physiotherapy,

Class roll: 22

Session: 2013-2014

BHPI, CRP, Savar, Dhaka

Approved
04/07/18
Mokhammad Anwar Hossain
Associate Professor & Head
Physiotherapy Dept., CRP
CRP, Chapain, Savar, Dhaka-1343

Forwarded
9/7/18
Prof. Md. Obaidul Haque
Head, Department of Physiotherapy
Bangladesh Health Professions Institute (BHPI)
CRP, Savar, Dhaka-1343

Permission letter 2

19 July, 2018

To,
Assistant Manager,
Rehabilitation wings,
CRP-Chapain, Savar, Dhaka-1343
Through: Head, Department of Physiotherapy

Subject: Prayer for seeking permission to collect data for conducting a research project.

Sir,

With due respect and humble submission I am Mousumi Akter Ruma, student of 4th year B.Sc. in Physiotherapy at Bangladesh Health Professions Institute (BHPI). In 4th year we have to do a research project for the partial fulfillment of the requirement for the degree of B.Sc in Physiotherapy. My research project title is, "Quality Of Life Of Spinal Cord Injured Women After Completing Rehabilitation From CRP" under the supervision of Mst. Fatema Akter, Senior Lecturer, Physiotherapy Department, BHPI. Conducting this research project is partial fulfillment of the requirement for the degree of B.Sc. in Physiotherapy. I want to collect research data for my research project from spinal cord injury patients in the community. So, I need permission and support for data collection from spinal cord injury patients in the community. I would like to assure that anything of my research project will not be harmful for the participants and department as well.

So, I, therefore, pray and hope that you would be kind enough to grant my application and give me the permission for data collection and oblige thereby.

Yours faithfully,
Mousumi Akter Ruma

Mousumi Akter Ruma
Roll: 22
4th years B.Sc. in Physiotherapy
Session: 2013-2014
Bangladesh Health Professions Institute
(An academic Institution of CRP)
CRP-Chapain, Savar, Dhaka-1343.

Forwarded to
CRP Field officer
26/7/18

Recommended & Forwarded
21.07.18

Prof. Md. Chaital Haque
Head, Department of Physiotherapy
BHPI, CRP, Savar, Dhaka-1343

SALINA RAHMAN
Assistant Manager
Rehabilitation Wing
CRP, Bangladesh, Savar

Appendix-C

Consent form (English & Bangla)

Consent Form

Assalamu-alaikum/Namaskar,

I am Mousumi Akter Ruma, 4th year student of B.Sc In Physiotherapy at Bangladesh Health Professions Institute (BHPI). I am conducting a research and my research title is **“Quality of life of spinal cord injured women after completing rehabilitation programme from CRP.”** I am asking you to answer some questions, which will take 20-25 minutes. It is also ensured that the information provided by you will be kept confidential.

Hereby, your participation in the study would be voluntary basis. So, you can withdraw your participation at any time within the course of the study. Withdrawing from participation of the study would not disadvantage you to receive existing service. If you face any problem within the course of the study, you can contact with me or my supervisor **Mst. Fatema Akter, Senior Lecturer, Department of Physiotherapy, BHPI, CRP, Savar, Dhaka-1343.**

Do you have any question before I start?

Can I start the interview with your permission?

Yes No

Signature/Fingerprint of the Patient:

Signature of the Data collector:

Signature of the Witness:

সম্মতিপত্র

আলসালামু-আলাইকুম/নমস্কার,

আমি মৌসুমী আক্তার চুমা, বাংলাদেশ হেলথ প্রাকেশনাল ইনস্টিটিউট (বি.এইচ.পি. আই) এর বি.এস.সি ইন ফিজিওথেরাপী কোর্সের চতুর্থ বর্ষের একজন ছাত্রী। বি.এস.সি ডিগ্রী প্রাপ্তির জন্য আমার একটি গবেষনামূলক প্রকল্প করা প্রয়োজন এবং আমার প্রকল্পটি হচ্ছে- “স্পাইনাল কোর্ড ইনজুরিতে আক্রান্ত মহিলাদের পুনর্বাসনের পরে জীবন যাত্রার মান।” এজন্য আমি আপনার কাছে কিছু তথ্য জানতে চাই, যার জন্য শুধু মাত্র ২০-২৫ মিনিট সময় লাগবে। আমি আপনাকে আশু করছি যে, আপনার ঋণ প্রদত্ত ব্যবহারী সমস্ত তথ্য গোপন রাখা হবে।

উল্লেখ্য যে, এই গবেষণায় আপনার অংশগ্রহণ হবে ঐচ্ছিক। তাই যে কোন সময় এই গবেষণা থেকে আপনি নিজেকে প্রত্যাহার করে নিতে পারবেন। এই গবেষণায় অংশগ্রহণে অনিচ্ছুক হওয়া বা গবেষণা থেকে প্রত্যাহার করার কারণে আপনার চিকিৎসায় কোন প্রভাব পড়বে না। আপনি যদি গবেষণা উল্লিখিত সময়ের কোন সময়ের সম্মুখীন হন, তাহলে আপনি যোগাযোগ করতে পারেন আমার সাথে অথবা আমার সুপারভাইজার মোসাঃ ফাতেমা আক্তার, সিনিয়র লেকচারার, ফিজিওথেরাপী বিভাগ, বি.এইচ.পি.আই, সি.আর.পি, সাতার, ঢাকা-১৩৪৩ এর সাথে।

আমি শুরু করার আগে আপনি কি আরও কিছু তথ্য জানতে চান?

আমি কি আপনার অনুমতি নিয়ে শুরু করতে পারি?

হ্যাঁ না

রোগীর স্বাক্ষর/আইসুলের ছাপ :

তারিখ :

তথ্য সংগ্রাহকের স্বাক্ষর :

তারিখ :

সাক্ষীর স্বাক্ষর :

তারিখ :

Appendix-D

Questionnaire (English & Bangla)

Part_1: Socio-demographic Information

- Age
- Marital Status
 - ◆ Unmarried
 - ◆ Married
 - ◆ Divorced
 - ◆ Widow
- Educational Status
 - ◆ Illiterate
 - ◆ Primary
 - ◆ Secondary
 - ◆ Higher-secondary
 - ◆ Honours
 - ◆ Masters and more
- Residential Area
 - ◆ Urban
 - ◆ Rural
- Occupation
- Cause of Injury
 - ◆ Traumatic
 - ◆ Non-Traumatic
- Type of paralysis
 - ◆ Paraplegia
 - ◆ Tetraplegia

Part 2: Quality Of Life Scale (SF-36 V2 Health Survey)

This survey asks for your views about your health. This information will help keep track of how you feel and how well you are able to do your usual activities.

1. In general, would you say about your health related quality of life?

1. Excellent
2. Very good
3. Good
4. Fair
5. Poor

2. Compared to one year ago, how would you rate your health in general now?

1. Much better now than a year ago
2. Somewhat better now than a year ago
3. About the same as one year ago
4. Somewhat worse now than one year ago
5. Much worse now than one year ago

3. The following items are about activities you might to do during a typical day. Does your health now limit you in these activities? If so, how much?

a. Vigorous activities, such as running, lifting heavy object, participating in strenuous sports.

1. Yes, limited a lot
2. Yes, limited a little
3. No, not limited at all

b. Moderate activities, such as moving a table, pushing a vacuum cleaner, bowling, or playing golf?

1. Yes, limited a lot
2. Yes, limited a little
3. No, not limited at all

c. Lifting or carrying groceries

1. Yes, limited a lot
2. Yes, limited a little
3. No, not limited at all

d. Climbing several flights of stairs

1. Yes, limited a lot
2. Yes, limited a little
3. No, not limited at all

e. Climbing one flight of stairs.

1. Yes, limited a lot
2. Yes, limited a little
3. No, not limited at all

f. Forward bending, kneeling or stooping

1. Yes, limited a lot
2. Yes, limited a little
3. No, not limited at all

g. Walking more than a mile

1. Yes, limited a lot
2. Yes, limited a little
3. No, not limited at all

h. Walking several hundred yards

1. Yes, limited a lot
2. Yes, limited a little
3. No, not limited at all

i. Walking one hundred yards

1. Yes, limited a lot
2. Yes, limited a little
3. No, not limited at all

j. Bathing or dressing yourself

1. Yes, limited a lot
2. Yes, limited a little
3. No, not limited at all

4. During the past 4 weeks, how much of the time have you had any of the following problems with your work or other regular daily activities as a result of a physical health?

a. Cut down on the amount of time you spent on work or other activities

1. All of the time
2. Most of the time
3. Some of the time
4. A little of the time
5. None of the time

b. Accomplished less than you would like?

1. All of the time
2. Most of the time
3. Some of the time
4. A little of the time
5. None of the time

c. Were limited in the kind of work or other activities?

- 1. All of the time 2. Most of the time 3. Some of the time
- 4. A little of the time 5. None of the time

d. Had difficulty performing the work or other activities (for example, it took extra time)

- 1. All of the time 2. Most of the time 3. Some of the time
- 4. A little of the time 5. None of the time

5. Have you had any of the following problems with your work or other regular

daily activities as a result of any emotional problems (such as feeling depression or anxious)?

a. Cut down the amount of time you spent on work or other activities?

- 1. All of the time 2. Most of the time 3. Some of the time
- 4. A little of the time 5. None of the time

b. Accomplished less than you would like?

- 1. All of the time 2. Most of the time 3. Some of the time
- 4. A little of the time 5. None of the time

c. Didn't do work or other activities as carefully as usual

- 1. All of the time 2. Most of the time 3. Some of the time
- 4. A little of the time 5. None of the time

6. What extent has your physical health or emotional problems interfered with your normal social activities with family, friends, neighbors or groups?

1. Not at all
2. Slightly
3. Moderately
4. Quite a bit
5. Extremely

7. How much bodily pain have you had during the past 4 week?

1. Not at all
2. Slightly
3. Moderately
4. Quite a bit
5. Extremely

8. How much pain interferes with your normal work (including both work outside the home and housework?)

1. Not at all
2. Slightly
3. Moderately
4. Quite a bit
5. Extremely

9. These questions are about how you feel and how things have been with you during the past 4 weeks. For each question, please give the one answer that comes closest to the way you have been feeling. How much of the time during the past 4 weeks.

a. Did you feel full of pep?

1. All of the time
2. Most of the time
3. Some of the time
4. A little of the time
5. None of the time

b. Have you been a very nervous person?

1. All of the time
2. Most of the time
3. Some of the time
4. A little of the time
5. None of the time

c. Have you felt so down in the dumps nothing could cheer you up?

1. All of the time
2. Most of the time
3. Some of the time
4. A little of the time
5. None of the time

d. Have you felt calm and peaceful?

1. All of the time
2. Most of the time
3. Some of the time
4. A little of the time
5. None of the time

e. Did you have a lot of energy?

1. All of the time
2. Most of the time
3. Some of the time
4. A little of the time
5. None of the time

f. Have you felt downhearted and blue?

1. All of the time
2. Most of the time
3. Some of the time
4. A little of the time
5. None of the time

g. Did you feel worn out?

1. All of the time
2. Most of the time
3. Some of the time
4. A little of the time
5. None of the time

h. Have you been a happy person?

1. All of the time
2. Most of the time
3. Some of the time
4. A little of the time
5. None of the time

i. Did you feel tired?

1. All of the time
2. Most of the time
3. Some of the time
4. A little of the time
5. None of the time

10. How much of the time physical or emotional problems interfere your social activities (like visiting friends, relative neighbors etc.)?

1. All of the time
2. Most of the time
3. Some of the time
4. A little of the time
5. None of the time

11. How true or false is each of the following statements for you?

a. I seem to get sick a little easier than other people

1. Definitely true
2. Mostly true
3. Don't know
4. Mostly false
5. Definitely false

b. I am as healthy as anybody I know

1. Definitely true
2. Mostly true
3. Don't know
4. Mostly false
5. Definitely false

c. I expect my health to get worse

1. Definitely true
2. Mostly true
3. Don't know
4. Mostly false
5. Definitely false

d. My health is excellent

1. Definitely true
2. Mostly true
3. Don't know
4. Mostly false
5. Definitely false

Questionnaire – বাংলা

এস এফ -৩৬

এই প্রশ্নগুলোতে আপনার স্বাস্থ্য সম্পর্কে আপনার মতামত জানতে চাওয়া হয়েছে। এই তথ্যগুলি দ্বারা আপনি কি অনুভব করেন এবং কতটা ভালভাবে আপনার প্রাত্যাহিক কর্মসম্পাদনে সক্ষম সে ব্যাপারে নজর রাখতে সাহায্য করবে। এই সমীক্ষাটি সম্পূর্ণ করার জন্য আপনাকে ধন্যবাদ।

নিম্নলিখিত প্রতিটি প্রশ্নের উত্তরগুলোর মাঝে যেটিকে আপনার সবচেয়ে সঠিক বলে মনে হয়, অনুগ্রহপূর্বক সেগুলোতে টিক চিহ্ন দিন।

১। সাধারণভাবে বলতে, আপনার মতে আপনার স্বাস্থ্য হলঃ

- চমৎকার
- খুব ভাল
- ভাল
- মোটামুটি
- খারাপ

২। গত এক বছর এর সাথে তুলনা করলে আপনার স্বাস্থ্য কেমন ?

- গত এক বছরের তুলনায় এখন অনেক ভাল
- গত এক বছরের তুলনায় এখন খানিকটা ভাল
- প্রায় গত এক বছরের মতন
- গত এক বছরের তুলনায় এখন কিছুটা খারাপ
- গত একবছরের তুলনায় এখন অনেক খারাপ

৩। নিম্নলিখিত প্রশ্নগুলো আপনি একটি সাধারণ দিনে যেসব কাজকর্ম করে থাকেন সেই সম্পর্কিত। আপনার স্বাস্থ্য কি আপনার কাজকর্ম বাঁধা হয়ে দাঁড়িয়েছে? যদি হয়, তবে কতটুকু?

a. খুব পরিপ্রমসাদ্য কাজগুলি, যেমন দৌড়ানো, ভারি জিনিস তোলা, শ্রমসাদ্য খেলাধুলা করা -

- হ্যাঁ, অনেকখানি বাঁধা হয়ে দাঁড়িয়েছে
- হ্যাঁ, খানিকটা বাঁধা হয়ে দাঁড়িয়েছে
- না, একেবারেই বাঁধা হয় নি

b. অপেক্ষাকৃত কম পরিপ্রমসাদ্য কাজগুলি, যেমন টেবিল সরানো, ঘর ঝাঝ দেওয়া, বাগানে কাজ করা অথবা সাইকেল চালানো -

- হ্যাঁ, অনেকখানি বাঁধা হয়ে দাঁড়িয়েছে
- হ্যাঁ, খানিকটা বাঁধা হয়ে দাঁড়িয়েছে
- না, একেবারেই বাঁধা হয় নি

c. মুদিখানার পন্যদ্রব্য তোলা বহন করা -

- হ্যাঁ, অনেকখানি বাঁধা হয়ে দাঁড়িয়েছে
- হ্যাঁ, খানিকটা বাঁধা হয়ে দাঁড়িয়েছে
- না, একেবারেই বাঁধা হয় নি

d. কয়েক তলা সিঁড়ি বেয়ে উঠা-

- হ্যাঁ, অনেকখানি বাঁধা হয়ে দাঁড়িয়েছে
- হ্যাঁ, খানিকটা বাঁধা হয়ে দাঁড়িয়েছে
- না, একেবারেই বাঁধা হয় নি

e. একতলা সিঁড়ি বেয়ে উঠা-

- হ্যাঁ, অনেকখানি বাঁধা হয়ে দাঁড়িয়েছে
- হ্যাঁ, খানিকটা বাঁধা হয়ে দাঁড়িয়েছে
- না, একেবারেই বাঁধা হয় নি

f. ঝুকে কিছু করা, হাটু গেড়ে বসা, নিচু হয়ে কাজ করা-

- হ্যাঁ, অনেকখানি বাঁধা হয়ে দাঁড়িয়েছে
- হ্যাঁ, খানিকটা বাঁধা হয়ে দাঁড়িয়েছে
- না, একেবারেই বাঁধা হয় নি

g. এক মাইলের বেশি হাঁটা -

- হ্যাঁ, অনেকখানি বাঁধা হয়ে দাঁড়িয়েছে
- হ্যাঁ, খানিকটা বাঁধা হয়ে দাঁড়িয়েছে
- না, একেবারেই বাঁধা হয় নি

h. কয়েকশত মিটার হাঁটা-

- হ্যাঁ, অনেকখানি বাঁধা হয়ে দাঁড়িয়েছে
- হ্যাঁ, খানিকটা বাঁধা হয়ে দাঁড়িয়েছে
- না, একেবারেই বাঁধা হয় নি

i. একশো মিটার হাঁটা-

- হ্যাঁ, অনেকখানি বাঁধা হয়ে দাঁড়িয়েছে
- হ্যাঁ, খানিকটা বাঁধা হয়ে দাঁড়িয়েছে
- না, একেবারেই বাঁধা হয় নি

j. নিজে নিজে গোসল করা বা জামাকাপড় পড়া-

- হ্যাঁ, অনেকখানি বাঁধা হয়ে দাঁড়িয়েছে
- হ্যাঁ, খানিকটা বাঁধা হয়ে দাঁড়িয়েছে
- না, একেবারেই বাঁধা হয় নি

8. বিগত চার সপ্তাহে, প্রাত্যহিক জীবনের কাজগুলো সম্পাদন করতে গিয়ে আপনার সাহেবর জন্য আপনি কি পরিমাণ সময়ের মুখে পড়েছেন ?

a. আপনার কর্মস্থলে এবং অন্যান্য কাজগুলোতে আপনি কম সময় দিয়েছেন -

- সবসময়
- বেশিরভাগ সময়
- মাঝেমধ্যে
- খুব কম সময়
- কখনই নয়

b. আপনি যতটুকু চেয়েছিলেন তার চেয়ে কম কাজ করেছেন -

- সবসময়
- বেশিরভাগ সময়
- মাঝেমধ্যে
- খুব কম সময়
- কখনই নয়

c. আপনার নিজের কাজ বা অন্যায় কাজেই সীমাবদ্ধ ছিলেন -

- সবসময়
- বেশিরভাগ সময়
- মাঝেমধ্যে
- খুব কম সময়
- কখনই নয়

d. আপনার নিজের কাজ বা অন্যায় কাজ করতে গিয়ে অসুবিধা বোধ করেছিলেন -

- সবসময়
- বেশির ভাগ সময়
- মাঝেমধ্যে
- খুব কম সময়
- কখনই নয়

৫. বিগত চার সপ্তাহে, প্রাত্যহিক জীবনের কাজগুলো সম্পাদন করতে গিয়ে আপনার মানসিক সমস্যার কারণে আপনি নিচের কোন সমস্যাগুলোর মুখে পড়েছেন? (যেমন - মানসিক চাপ বা দুশ্চিন্তাপ্রসূ হওয়া)।

a. আপনার কর্মস্থলে এবং অন্যায় কাজগুলোতে আপনি কম সময় দিয়েছেন -

- সবসময়
- বেশিরভাগসময়

- o মাঝেমধ্যে
- o খুবকমসময়
- o কখনইনয়

b. আপনি যতটুকু চেয়েছিলেন তার চেয়ে কম কাজ করেছেন -

- o সবসময়
- o বেশিরভাগ সময়
- o মাঝেমধ্যে
- o খুব কম সময়
- o কখনই নয়

c. অন্যান্য সময়ের চেয়ে কাজে কম মনযোগ দিয়েছেন -

- o সবসময়
- o বেশিরভাগ সময়
- o মাঝেমধ্যে
- o খুব কম সময়
- o কখনই নয়

৬। বিগত চার সপ্তাহে আপনার শারীরিক বা মানসিক সমস্যাগুলি আপনার পরিবার , বন্ধুবান্ধব , প্রতিবেশী বা গোষ্ঠীর সাথে সামাজিক কাজকর্মে কতখানি বাঁধা সৃষ্টি করেছে?

- o একেবারে না
- o সামান্য রকম
- o মাঝামাঝি রকম
- o অনেকখানি
- o অত্যন্ত বেশিরকম

৭। গত চার সপ্তাহে , আপনি কতখানি শারীরিক ব্যাথা অনুভব করেছেন?

- o একেবারে না

- সামান্য রকম
- মাঝামাঝি রকম
- অনেখানি
- অত্যন্ত বেশিরকম

৮। গত চার সপ্তাহে, আপনি কতখানি শারীরিক ব্যাথা আপনার প্রাত্যাহিক কাজে কি পরিমাণ বাঁধা সৃষ্টি করেছে (ঘরে ও বাইরে)।

- একেবারে না
- সামান্য রকম
- মাঝামাঝি রকম
- অনেখানি
- অত্যন্ত বেশিরকম

৯। বিগত চার সপ্তাহে, আপনার শারীরিক অবস্থা কেমন ছিল এবং আপনি কেমন অনুভব করেছিলেন নিচের প্রশ্নগুলো সেই সম্পর্কিত। প্রতিটি প্রশ্ন এর জন্য আপনি যেমন অনুভব করেছিলেন সে অনুযায়ী সবচেয়ে প্রযোজ্য উত্তরটি দিন।

গত চারসপ্তাহে কতবার -

- a. আপনি কি খুব স্বাচ্ছন্দবোধ করেছিলেন?
- সবসময়
 - বেশিরভাগ সময়
 - মাঝেমধ্যে
 - খুব কম সময়

b. আপনি কি খুব বিচলিত ছিলেন ?

- সবসময়
- বেশিরভাগ সময়
- মাঝেমধ্যে
- খুব কম সময়

c. আপনি কি এমনই হতাশাগ্রস্ত হয়ে পড়েছিলেন যে কোনকিছুই আপনাকে উদ্দীপিত করতে পারছিলেন ?

- সবসময়
- বেশিরভাগ সময়
- মাঝেমধ্যে
- খুব কম সময়

d. আপনি কি খুব স্থির ও শান্ত ছিলেন ?

- সবসময়
- বেশিরভাগ সময়
- মাঝেমধ্যে
- খুব কম সময়

e. আপনার কি প্রচুর প্রাণশক্তি ছিল ?

- সবসময়
- বেশিরভাগসময়
- মাঝেমধ্যে
- খুবকমসময়

f. আপনি কি মানসিকভাবে হতাশ ও মনমরা হয়ে পড়েছিলেন ?

- o সবসময়
- o বেশিরভাগ সময়
- o মাঝেমধ্যে
- o খুব কম সময়

g. আপনি কি বিপর্যস্থবোধ করেছিলেন ?

- o সবসময়
- o বেশিরভাগ সময়
- o মাঝেমধ্যে
- o খুব কম সময়

h. আপনি কি আনন্দে ছিলেন ?

- o সবসময়
- o বেশিরভাগ সময়
- o মাঝেমধ্যে
- o খুব কম সময়

i. আপনি কি ক্লান্ত ছিলেন ?

- o সবসময়
- o বেশিরভাগ সময়

- মাঝেমধ্যে
- খুব কম সময়

১০। বিগত চার সপ্তাহে, আপনার শারীরিক এবং মানসিক সমস্যাগুলো আপনাকে সামাজিক কার্যক্রমে কি পরিমাণ বাধার সৃষ্টি করেছে? (যেমন - বন্ধু-বান্ধব এবং আত্মীয়-স্বজনদের সাথে দেখা করতে যাওয়া)।

- সবসময়
- বেশিরভাগ সময়
- মাঝেমধ্যে
- খুব কম সময়

১১। নিম্নলিখিত বিবৃতিগুলো প্রত্যেকটি আপনার ক্ষেত্রে কতটুকু সত্য বা মিথ্যা?

- a. আমার মনে হয় অন্যান্য মানুষের চেয়ে একটু বেশি অসুস্থ হয়ে পড়ি -
 - সবসময়
 - বেশিরভাগ সময়
 - মাঝেমধ্যে
 - খুব কম সময়
- b. আমি আমার জানাশোনা মানুষ গুলোর মতই সুস্থ -
 - সবসময়
 - বেশিরভাগ সময়
 - মাঝেমধ্যে
 - খুব কম সময়

c. আমি আমার স্বাস্থ্য খারাপ হবার আশংকা করি -

- o সবসময়
- o বেশিরভাগ সময়
- o মাঝেমধ্যে
- o খুব কম সময়

d. আমার স্বাস্থ্য অনেক ভাল -

- o সবসময়
- o বেশিরভাগ সময়
- o মাঝেমধ্যে
- o খুব কম সময়

[এই প্রশ্নগুলির উত্তর সম্পূর্ণ করার জন্য আপনাকে ধন্যবাদ।]

c. আমি আমার স্বাস্থ্য খারাপ হবার আশংকা করি -

- o সবসময়
- o বেশিরভাগ সময়
- o মাঝেমধ্যে
- o খুব কম সময়

d. আমার স্বাস্থ্য অনেক ভাল -

- o সবসময়
- o বেশিরভাগ সময়
- o মাঝেমধ্যে
- o খুব কম সময়

[এই প্রশ্নগুলির উত্তর সম্পূর্ণ করার জন্য আপনাকে ধন্যবাদ।]