

CAREGIVERS EXPERIENCE OF LOW BACK PAIN DEALING PEOPLE WITH SPINAL CORD INJURIES

Md. Majidur Rahman

Bachelor of Science in Physiotherapy (B.Sc. PT)

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Bangladesh Health Professions Institute (BHPI)

Department of Physiotherapy

CRP, Savar, Dhaka-1343

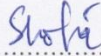
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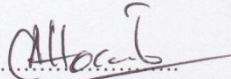
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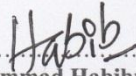
Submitted by **Md. Majidur Rahman**, for partial fulfillment of the requirements for the degree of Bachelor of Science in Physiotherapy (B. Sc. PT).



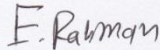
.....
Md. Shofiqul Islam
Assistant Professor
Department of Physiotherapy
BHPI, CRP, Savar, Dhaka
Supervisor



.....
Mohammad Anwar Hossain
Associate Professor & Head
Department of Physiotherapy
CRP, Savar, Dhaka



.....
Mohammad Habibur Rahman
Assistant Professor
Department of Physiotherapy
BHPI, CRP, Savar, Dhaka



.....
Ehsanur Rahman
Assistant Professor
Department of Physiotherapy
BHPI, CRP, Savar, Dhaka



.....
Md. Obaidul Haque
Associate Professor & Head
Department of Physiotherapy
BHPI, CRP, Savar, Dhaka

Declaration

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

Signature: Md. Majidur Rahman

Date: 22/02/2017

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Acronyms

ADL	Activity of Daily Living.
ASIA	American Spinal Injury Association.
BHPI	Bangladesh Health Professions Institute.
BMRC	Bangladesh Medical Research Council.
CRP	Centre for the Rehabilitation of the Paralyzed.
HANES	Health and Nutrition Examination Survey.
IRB	Institutional Review Board.
LBP	Low Back Pain.
NPRS	Numeric Pain Rating Scale.
ODI	Oswestry Disability Index.
PT	Physiotherapy.
SCI	Spinal Cord Injury.
SPSS	Statistical Package for the Social Sciences.
US	United States.
WHO	World Health Organization.

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Abstract

Purpose: To identify the caregivers experience of low back pain dealing people with spinal cord injuries.

Objectives: The objectives of this study are to find out the association between low back pain and demographic variables. To find out the more affected age group and to know the pain severity among the caregivers and also to find out the levels of physical disability due to low back pain of caregivers to manage their activities of daily living.

Methodology: The study design was cross-sectional. Total 50 samples were selected conveniently for this study from Centre for the rehabilitation of the paralyzed (CRP), Spinal cord injury unit, at Savar. Data was collected by using numeric pain rating scale (NPRS) and Oswestry low back pain (ODI) questionnaire. Descriptive statistics through using SPSS software version 20.0 was used for data analysis which focused through Table, Pie chart and Bar chart.

Results: Among 50 caregivers evaluated, 29(58%) were female and 21 (42%) were male caregivers. In this study, among caregivers especially more common in female caregivers. Married caregivers are more vulnerable rather than unmarried. More affected caregivers age group in between 31-40 years were 18(36%). It was found that the severity of pain among the all caregivers most of the caregivers experience pain within score (0-10), worst level of pain score were 7(n=14;28%) and usual level of pain score were 5(n=18;36%). And also least of them experience pain at right now, best level of pain and other levels of pain during the last week. Most of the caregivers 25(50%) had moderate disability, 11(22%) had severe disability and least of them experiencing minimal disability due to LBP.

Conclusion: Low Back Pain is one of the most frequent musculoskeletal disorders in daily practice and also very frequent problem in Bangladesh. LBP is more numerous in caregivers of SCI survivors than in the normal population. They need to care for their own health through Health and Safety and Ergonomics concerns from physiotherapist regarding caring for their patients and managing their everyday life.

Key words: Low back pain, Caregivers, Spinal cord injury.

1.1Background:

Spinal cord injury (SCI) is one of the most common type of injury and generally a distressing disorder that can cause loss of physical, psychological, and social functioning (Gurcay et al., 2010). It is the major cause of paralysis that changes the person's lifestyle which is almost always occurs suddenly & unexpectedly (Smith et al., 2013). Spinal cord injury is a recurrent cause of mortality, and it results in a high level of single disability, which is reflected in radical changes in lifestyle (Kawanishi & Greguol, 2013). It is a significant public health problem and one of the most expensive occupational health problems and one of the disability oriented injury is spinal cord lesion that mostly occurs in young male of low social status (Islam et al., 2011).

According to their level of injury, people with SCI often have major functional limitations and lack of freedom and the patients are supported by the caregiver for a longer duration. Thus the health of caregivers is of great significance (Bardak et al., 2012). Family caregivers of peoples with SCI may experience a wide range of lifestyle and quality of life changes after assuming the role as primary caregiver (Ebrahimzadeh et al., 2014). SCI patients have longer life hopes than other degenerative conditions. As a result caregivers of persons with SCI have to participate themselves for a long time in care giving for the patient. Many studies found that the primary caregivers and/ or spouses of SCI survivors may experience numerous problems due to this disorder. SCI meaningfully interferes with the care givers quality of life independently of the severity of the injury (Unalan et al., 2001).

LBP is a symptom of a pain which can be localised between the twelfth rib and the inferior gluteal folds (low back), with or without leg pain from various causes but is not a disease (Krismer & van Tulder, 2007). Most cases are non-specific, but in 5%-10% of cases a specific cause is identified (Krismer & van Tulder, 2007). These causes can be attributed to non-specific and/or specific factors, and these factors combine with each other in some

cases. Moreover, it is necessary to ascertain the factors causing LBP and whether it is primary or secondary LBP. We are able to treat and prevent LBP promptly when we specify the causes of LBP, though most of pathomechanism of LBP is unknown (Nachemson, 1992). LBP is more common between the ages of 25 and 64 years though it can occur in all age ranges. The prevalence of LBP peaks between ages 35 and 55 (Andersson, 1992). The prevalence of LBP has been investigated in many surveys, with point, annual, and lifetime prevalence generally showing that prevalence is widespread among the investigations. This indicates the variety of investigations, especially the methodology such as population (age, gender, race, number and lifestyle), region, time, period, definition of LBP and contents of questionnaires in the investigation. However, the preventive measures for LBP that are suited for regional populations can be found through the epidemiological data. That the back trouble is a frequent problem and the prevalence of back pain symptoms is estimated to be 17.2% from the data source of The United States (US) Health and Nutrition Examination Survey, 1971-1975 (HANES I) of the US adults aged 25-74 years (Cunningham & Kelsey, 1984).

Nowadays, Low back pain is a major problem all over the world (Biglarian et al., 2012). It was largely thought of as a problem restricted to Western countries (Freburger et al., 2009). However, since that time an increasing amount of research has demonstrated that LBP is also a chief problem in low and middle income countries (Khan et al., 2014). LBP is the leading cause of activity restriction and work absence throughout much of the world (Dionne et al., 2006). And it causes a great financial burden on individuals, communities and governments. Low back pain has a high occurrence and a severe impact on both society and individual (Hoy et al., 2012). It affects one in five people at any one time and by the age of 30 years half of the population will have experienced at least one incidence of back pain (Docking et al., 2011). Globally, low back pain is one of the most common health complications which make a large personal, community and financial burden (Hoy et al., 2012). LBP causes a enormous financial burden on individuals, families, communities, industry and governments including the costs of medical care, compensation payment, productivity loss employee retraining, executive expenses and litigation (Thelin et al., 2008).

LBP is also very frequently occurring spectacle in Bangladesh. Bangladesh is a poor country with huge population and with very imperfect resources and poor management. For various reasons, a huge number of disable with LBP patients cannot be managed (Nujhat, 2013). Shakoor et al. (2007) said in their study that LBP is very common in people of different employments and also most of the patients were housewives 58.8%, then government service holders (19.6%), businessmen (10.8%), laborers (6.9%), private service holders (2.9%) and retired serviceman (1%). From that study, in comparison based on gender it was found that female persons hurt from LBP earlier than male. The incidence of LBP varies from country to country but is uniformly high in industrialized countries (Shakoor et al., 2007).

1.2 Rationale:

The aim of the study is to find out the prevalence of LBP among the caregivers. In our country in which ergonomics the caregivers are worked and which types of work are done by them, these make them more prone to develop different musculoskeletal problems; among these musculoskeletal problems LBP is the most common. Literature showed that prolong static posture like stooping, bending, sitting, standing, as well as prolong squatting proposed to be associated with LBP. Besides these regular heavy weight lifting and heavy physical work to moderate physical activity is seems to be associated with LBP, in our country these work are done by the caregivers regularly such as mobility, assist in personal care and other basic ADLs specially the caregivers who are worked at the hospitals in urban area as well as at the home, they need to carry their patients, sometimes need to lifting and transferring of medical equipment, and any kind of heavy objects. So the caregivers are the more venerable group in health sectors to develop LBP in our country. But this topic does not come into focus because most of the time they ignore this problem by considering the problem of her hospitals authors, family because they need to take care her patients which they consider as the main duty of their life. They only disclose the problem when it becomes unbearable to them and they cannot continue the work anymore. Even they do not get proper treatment in case low socio-economical condition, and lack of knowledge about their appropriate treatment sector to manage LBP, but most of this LBP can be prevented or even curable only by following some ergonomical advice during their practices and ADLs. By considering the problems of the caregivers, investigator is interested in these topics to focus the LBP problems among the caregivers. From this study investigator will able to identify the prevalence of LBP and the most common factors which are responsible for developing LBP which can helps to develop appropriate measures to prevent the LBP among the caregivers. Caregivers may provide proper guideline for every single risk which will be helpful for them. When the researcher collect the data he must introduce herself to the participants as the physiotherapist and her role in musculoskeletal sector, as a result, at least the participants of this study get the information about one of the sectors of physiotherapy thus the information about the physiotherapy profession is spread out and the investigator thinks that it also will be very helpful for professional development of physiotherapy which is necessary for the current situation.

1.3 Research Question

What is the caregivers experience of low back pain dealing people with spinal cord injuries?

1.4 Objectives

1.4.1 General Objective:

- To find out the caregivers experience of low back pain dealing people with spinal cord injuries attending at CRP, Saver.

1.4.2 Specific Objective:

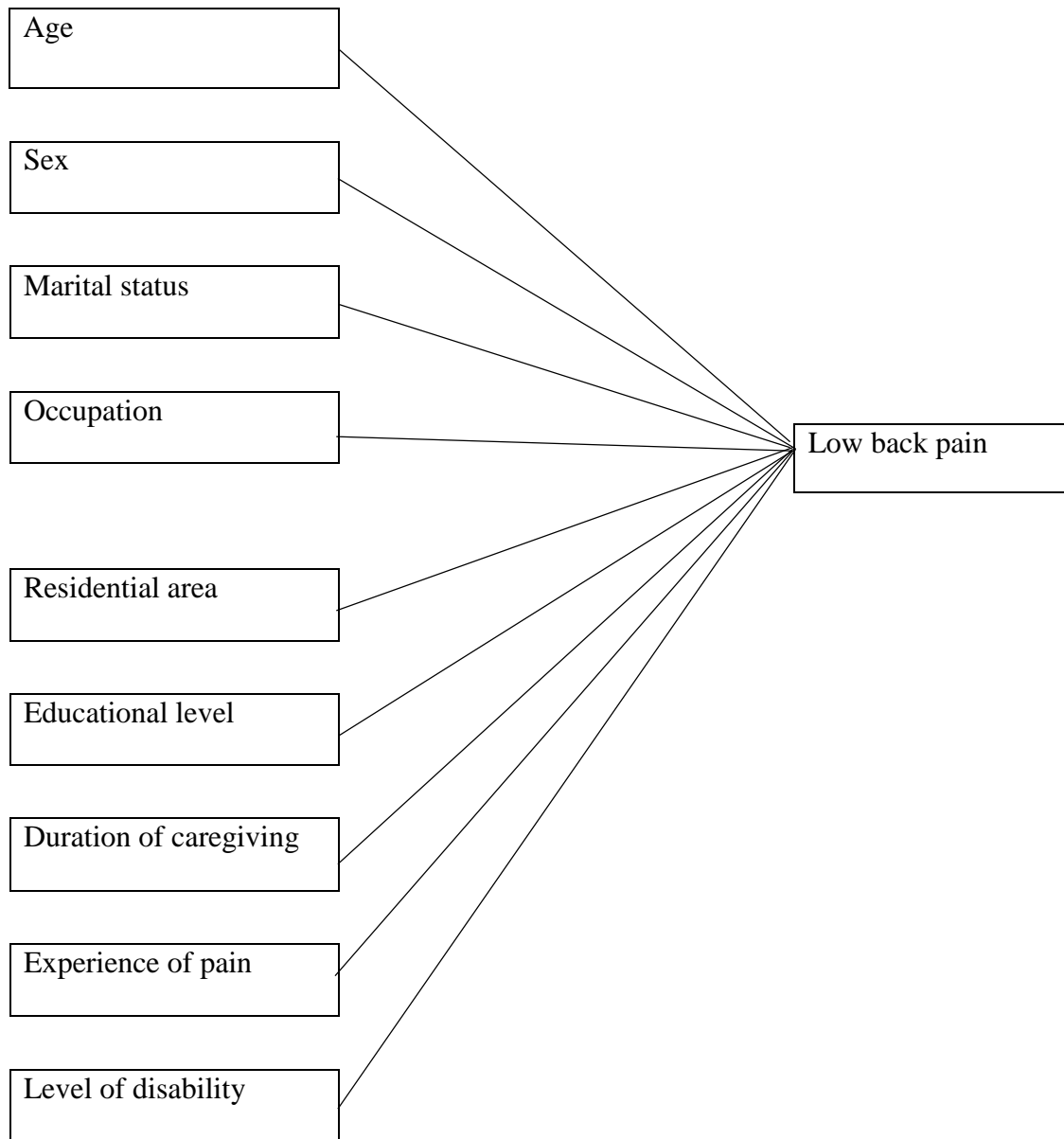
- To determine the socio-demographic information of the caregivers.
- To find out the more affected age group.
- To know the severity of pain by using Numeric pain rating scale.
- To find out the association between the LBP and socio-demographic factors.
- To find out the levels of disability due to LBP of caregivers to manage their activity of daily living.

1.5 List of Variables:

Conceptual Framework

Independent Variables

Dependent Variable



1.6 Operational definition

Spinal Cord Injury

When the spinal cord is damaged following trauma to the spine or disease process then it is called spinal cord injury which resulting in either temporary or permanent change in its normal motor, sensory, or autonomic functions.

Prevalence

Prevalence is the total number of cases of a disease present in a given population at a specific time. Caregivers experience of low back pain dealing people with spinal cord injuries was determined by the number of caregivers affected by LBP per fifty caregivers, in this study.

Low Back Pain

Low back pain means feeling of pain in the lumber region with or without radiation to the lower limb.

Caregiver

People who "provide unpaid care by looking after an ill, frail or disabled family member, friend or partner are caregivers.

Spinal cord injury is devastating and costly event which occur in sudden and unexpected for human and social life. Life threaten complications are developed after these injury (Islam et al., 2011). The neural elements in the spinal canal that are spinal cord and cauda equina damage which can arise resolving or permanent neurological deficit (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). The life altering experience that affects not only the patients with SCI but also their spouses, parents, siblings and children and the significant cause of mortality and morbidity (Ali & Tawfiq, 2013). Spinal cord injury results in a high level of individual disability, which is reflected in radical changes in lifestyle (Kawanishi & Greguol, 2013). In developing country like Bangladesh, life expectancy of spinal cord injury patients was much lower than developed country (Razzak et al., 2011).

Recent research Kong et al. (2013) suggests that primary nerve injury occurs due to acute injury to the spinal cord that causes secondary damage by producing inflammation, ischemia, and toxicity. Deficit function in motor control occurs after SCI that causes disturb in daily activities (Kong et al., 2013). One of the debilitating condition is SCI that causes paralysis of the limb and injury such as compression, contusion or laceration, disrupts autonomic function occurs at the site of injury or below, then permanent disability such as paralysis, loss of sensation, neuropathic pain etc. can occur depending on the level of the lesion (Mothe & Tator, 2013). Spinal cord injury or damage can cause a wide range of impairments, activity limitations and participation restrictions which has an adverse impact on the society (New et al., 2013).

Nwankwo & Uche (2013) found that in SCI, The 31–45 years age group is the most frequently affected and male is more affected than female (4.3:1), 53% injury occurred in cervical spine, 22% thoracic spine and 25% lumber spine injury. In United States the annual incidence of traumatic SCI is 40 cases per million or 1200 new cases each year

(Rabadi et al., 2013). In Australia, male is more affected than female in non-traumatic SCI and the ratio is 197:169 and the prevalence of paraplegia is more about 269 per million than tetraplegia (98 per million) (New et al., 2013). The worldwide incidence of SCI is 10.4 and 83 per million per year and the mean age is 33 years old, male and female ratio is 3.8:1 and one- third of the patients are tetraplegic all over the world (Wyndaele & Wyndaele, 2006). And 2.5 million people live with SCI around the world (Oyinbo, 2011). In Asia the incidence rates of SCI is ranged from 12.06 to 61.6 per million and the average age is 26.8 to 56.6 years old, men are more vulnerable than women also in traumatic spinal cord injury main causes are motor vehicle collisions (MVCs) and falls (Ning et al., 2012). In CRP, Bangladesh, 25-29 years aged peoples are most commonly affected among them males are more 83% than female and 92% came from rural area and 8% came from urban area also majority of the patients are paraplegia 56%, Cervical lesion present in 44% cases, thoracic lesion 27% and lumber lesion 29% (Islam et al., 2011).

Research shows that it is occurred by traumatic or non-traumatic aetiologies (Kennedy & Chessell, 2013). Traumatic spinal cord injury is caused by direct or indirect trauma. In developing countries, there are three main causes that patient is admitted into hospital. Those are fall from high, transportation accident and being struck by an object. Study says that 561 traumatic spinal cord injury whose injuries occurred between 2001 and 2010. The annual incidence in Beijing is 60.6 per million which is more than other countries and regions. TSCI patient may suffer from different conditions such as spasticity, sensory changes, exaggerated reflex activities which is depending on the different level of lesion (Carlson & Gorden, 2002).

According the American Spinal Injury Association (ASIA) impairment scale, the classification of SCI severity is –A (complete): no motor or sensory function is preserved in the sacral segments S4-S5. B (incomplete): sensory but no motor function is preserved bellow the neurological level and includes the sacral segment S4 -S5. C (incomplete): Motor function is preserved below the neurological level, and more than a half of key muscles below the neurological level have a muscle grade of <3. D (incomplete): Motor function is preserved below the neurological level, and at least a half of key muscles

below the neurological level have a muscle grade of ≥ 3 . E (normal): Motor and sensory functions are normal. C₄ injury- tetraplegia, C₆ injury- tetraplegia, T₆ injury- paraplegia, L₁ injury- paraplegia (Thuret et al., 2006).

A 10yrs study aimed to investigate the life expectancy of people with SCI revealed that only 16.4% of the study population survived for 10 years in Bangladesh which was much lower than in developed countries like Finland (97.9%), Australia (86%), Canada (92%), UK (85%), and USA (80.7%). Beside this the study also found that the situation in Bangladesh is worse than other developing countries. The data indicates that Bangladesh has very poor medical facilities to promote the safe and worthwhile life after having a spinal cord injury. The study also pointed out some possible causes of poor life expectancy of persons with SCI, including inadequate acute management and lack of proper social reintegration (Razzak et al., 2011). According to the Oxford Advanced Learner's Dictionary (2001) "Caregiver is a person who looks after a sick or old person".

A similar study found that female caregivers with a child with mental health problems predicted caregiver anxiety and depression. In addition, having a child who was older at the time of injury predicted caregiver depression at a less spectrum. Poor social relationships, having a caregiver with mental health problems and having a caregiver with less education of the child predicted both the anxiety and depression (Kelly et al., 2011). Primary caregivers are "The person who is primarily involved in the care of the patient and provides the most support and/or assistance" (Blanes et al., 2007). Nowadays in developed countries as well as worldwide Spinal Cord Injury (SCI) remains a major public health issue. A significant increase of incidence of the SCI has been observed due to the increase of road traffic accidents (Notara et al., 2012). According to literature 2.5 million people are affected worldwide by SCI (Thuret et al., 2006). Spinal cord injuries are the most common among catastrophic injuries. Young adults are more likely to suffer lifelong disability from SCI than other ages. 54% of SCI occur in the ages between 16 and 30 years. 75% of injuries occur in those < 45 years old (Winslow & Rozovsky, 2003). As a result of recent advances in medical technology, persons surviving a spinal cord injury (SCI) are living longer, and often require varied degrees of assistance over their life span (Ebrahimzadeh et al., 2014).

According to their level of injury, people with SCI often have significant functional limitations and lack of independence (Notara et al., 2012). Enhancements in post-accident persistence rates and life span mean that these patients are supported by a caregiver for longer. Thus the health of caregivers is of great significance. (Bardak et al., 2012). Caregivers enter into this new role without formal preparation or training (Elliott & Rivera, 2003). Caregivers are frequently required to undertake heavy lifting, often with a bent or twisted posture, and biomechanical investigations have confirmed that such tasks generate high spinal stress. These risk factors have been experimentally associated with the development of injuries in spinal tissues (Warming et al., 2009).

A recent study found that for a very long time there has been a low life expectancy among persons with spinal cord injury. The study found that the life expectancy of persons with SCI is 10 to 12 time lower than the life expectancy of the general population. A major cause of death in Bangladesh according to the same study is the inadequate acute management of SCI patients. Poor QoL for caregivers/family members is the result of negative social acceptance & lack of proper re-integration in the community following the patient's discharge from hospital (Razzak et al., 2011).

In recent years, Japan has become a fast-aging population with the greatest longevity in the world. According to the statistics of Japan, the proportion of the elderly aged 65 years or older reached 20.8% in fiscal, and is estimated to reach 39.6% in 2050 (Japanese Health, Labor, and Welfare Ministry, 2006). In such an aged society, various health issues occur in caregivers in nursing homes. Particularly in female caregivers, high blood pressure (Hoshino et al., 2009) and coronary heart disease (Lee et al., 2003) have been reported to be at high risk. LBP is common in various occupations, its presence being related to activities requiring repetitive lifting and repeated activities for which anomalous postures tend to be adopted (Josephson et al., 1998). Such work characteristics are common among nursing caregivers. The prevalence of LBP in nursing is high in comparison with other occupations and in relation to other types of work (Ahlberg-Hulten et al., 1995). Risk factors include physical work such as manual lifting and transferring of patients, working

conditions such as working time and rest during the night shift, and the working environment (Fujimura et al., 1995). Among these factors, exposures to frequent manual lifting and transferring of patients were widely recognized factors. On the other hand, for female caregivers, it was reported that dissatisfaction with working conditions and the workplace environment was high (Fujimura et al., 1995), mental stress from work and human relations tended to be high (Ahlberg-Hulten et al., 1995; Failde et al., 2000), and physical fitness elements such as flexibility and muscular strength were low (Kinugasa et al., 1995). A study reported that caregivers who provided care at night suffered from a general sense of fatigue, physical disorders, and reduced mental energy compared with employed women (Tsukasaki et al., 2006). A systematic review indicated that female caregivers had higher levels of burden and depression, and lower levels of subjective well-being and physical health (Pinquart et al., 2006). Therefore, it is necessary that the issue of health in caregivers in nursing homes should include not only low back pain, but also mental and physical health status, and how to interpret these factors.

In recent literature it has been found that spouses of persons with SCI may suffer higher levels of stress than the other family members in taking up the care-giving role where three main factors are identified as strongly associated with adjustment outcomes and these are coping strategies, locus of control, and social support though, these are all Western-based studies where people from different cultures may have different sources of stress and corresponding coping patterns and traditionally, Chinese are considered to be group-oriented, or more specifically, family-oriented and socially dependent people and where each party of the relationship is expected to perform their role according to the norms and failure to achieve these role dualities will lead to discrimination by the others (Chan, 2000). One study in Canada estimated that 84% of adults have had LBP during their lifetime. Average prevalence were 59% in UK, 70% in Denmark, and 75% in Finland. In general population, the prevalence of low back pain in 1-month and annual duration ranges from 30% to 40% and 25% to 60 % (Biglarian et al., 2012). The most recent global review of the prevalence of LBP in the adult general population was published in 2000 and showed point prevalence of 12-33% and 1 year prevalence of 22-65%. 2 additional global reviews have been conducted, one of which focused on the elderly and the other on adolescents (Hoy et

al. 2012). An estimated 149 million days of work per year are lost because of LBP. More than 80% of the population will experience an episode of LBP at some time during their lives (Freburger et al., 2009).

Strine & Hootman (2007) found that the LBP is a more common between the ages of 25 and 64 years. It can occur in all age ranges but the most common ages are between 35 and 55. Strine and Hootman reported from National Health Interview Survey in 2002 that the prevalence of LBP increase with aging and the total prevalence of LBP only was 17.0% and the prevalence of both neck and LBP was 9.3% of US adults aged 18 years and over. In the United Kingdom (UK), the prevalence of back pain was 10.0% with the prevalence increasing with aging and the highest prevalence was shown in the aged 56-64 years from the survey of Calderdale population aged 16 years and older. Ihlebaek et al. reported the prevalence of LBP in Norway and Sweden. They showed 3 the point and the prevalence of LBP were 9.9% and 62.4% in men and 16.8% and 59.1% in women in Norway, and 14.6% and 68.9% in men and 20.4% and 69.9% in women in Sweden (Ihlebaek et al. 2006). Horvath et al., (2010) was showed European review the article that the prevalence of back pain in ranged between 14% and 42%, whereas lifetime prevalence was between 51% and 84% and the higher prevalence are found between the ages of 50 and 64. In Africa the average prevalence of LBP in one year among adolescents was 33% and among adults was 50%. The average lifetime prevalence of LBP among the adolescents was 36% and among adults was 62% (Louw et al., 2007). According to the United Nations (UN), the proportion of older people (i.e. aged 60 and over) will triple over the next 40 years and will account for more than 20% of the world's population by year 2050. LBP is more common in female than male (Strine & Hootman, 2007).

McBeth et al. (2007) found that point and lifetime prevalence of LBP ranged from 13% to 30% and from 51% to 84%, respectively, in the investigation using 13 selected studies (McBeth & Jones, 2007). Walker selected 30 studies of 56 studies using methodological examination (75% pass level for methodological acceptable) and reported that point prevalence ranged from 12% to 33%, 1-year prevalence ranged from 22% to 65% and lifetime prevalence ranged from 11% to 84% (Walker, 2000). Studies in this review were

conducted in 10 countries and they selected 10 South Africa studies, 7 Nigerian, 2 Tunisian and 8 from other countries. They estimated that point prevalence ranged from 16% to 59%, averaging 32% among adults in 9 methodologically sound studies, and 1-year prevalence ranged from 14% to 72%, averaging 50% among adults in 9 studies, and lifetime prevalence ranged from 28% to 74%, averaging 64% among adults in 6 studies. Point, 1-year, and lifetime prevalence of LBP potentially increased with age (Louw et al., 2007). In the study by Volinn (Volinn, 1997), it was reported that LBP rates in high-income countries were higher than those in low-income countries. LBP rates among the selected for the high-income countries (Belgium, Germany and Sweden) were approximately twice or even higher than the low-income countries (Nepal, India, Nigeria, China, Indonesia and Philippines), especially in rural areas. Point prevalence of LBP ranged from 29% to 42% in the high-income countries and ranged from 7% to 18% in rural areas in the low-income countries, though point prevalence of LBP was 14% in Britain (Volinn, 1997). In the study by walker (Walker, 2000), the highest point and lifetime prevalence of LBP in developing nations were 16.5% and 50% in Yugoslavia, respectively, excluding unclear information, and the highest point and lifetime prevalence of LBP in other nations were 33% in Germany and Belgium, and 79% in New Zealand, respectively. However, prevalence of LBP in Africa is similar to that of Western countries (Louw et al., 2007). Moreover, Hestbaek et al. (2003) reviewed 36 studies (28 observational studies and 8 randomized controlled trials) and reported that point prevalence of LBP in persons with one or more previous episodes of LBP ranged from 14% to 93%, and those without a prior history of LBP ranged from 7% to 39% in 6 studies (Hestbaek et al., 2003). Hillman et al. (1996) reported that the annual incidence of LBP was 4.7% (Hillman et al., 1996) and Cassidy et al. (2005) reported the cumulative incidence of LBP was 18.6% (Cassidy et al., 2005). Sikiru & Hanifa (2010) Showed that the Back care ergonomics of all respondents (100%) with no LBP had previous knowledge of back care hygiene. 80 (26.67%) of nurses with LBP had knowledge of back care hygiene while 220 (73.33%) LBP respondents had no knowledge of back care hygiene. Severity of LBP One hundred and thirty 130(43.34%) nurses indicated that their pain was mild and that it did not disturb their daily activities; 116 (38.66%) reported that it was moderate and 54(18%) was severe. Out of the 116 nurses with moderate LBP, 53 reported that it prevented from going to work while the remaining 63 only reported

restriction in daily activities. 54 (18%) thought it was severe, preventing them from going to work.

Sikiru & Hanifa (2010) Suggested that the Low back pain presently and within the last 12 months was reported by 300 respondents (73.53%). Of the 300 respondents reporting LBP, 96 (32%) were males and 204 (68%) were females. Where showed significant association ($P < 0.05$) between gender (sex) and prevalence of LBP among nurses. (Julia et al., 1997) showed that the Ergonomics risk factors are directly related to musculoskeletal discomfort. Some ergonomics risk factors that are related to low back pain are: Heavy physical work, heavy or frequent manual operations, repeated rotation of the trunk, and prolonged sitting. These risk factors have been experimentally associated with the development of injuries in spinal tissues. Nurses are frequently required to undertake heavy lifting, often with a bent or twisted posture, and biomechanical investigations have confirmed that such tasks generate high spinal stress (Warming et al., 2009). Karasek et al. (1998) found that university and hospital employees with occupations demanding high physical strains were absent from work, significantly more often due to low back pain than those with light physical work, Physical load like patient handling tasks have been associated with low back pain (Karasek et al., 1998).

Hospital workers experience more occupational health problems than other professional groups, the most common being low back pain (LBP), which is the commonest reason for hospitalization amongst this group of workers (Lahad et al., 1994; Retsas 1998; Omokhodion et al. 2000; Yip 2001; Lusk & Raymond 2002). However, the prevalence of reported LBP among hospital workers varies between different countries. For instance, the lifetime prevalence of LBP is reported as 76% in the Netherlands (Bos et al. 2007), 57Æ7% in Tunisia (Bejia et al. 2005), 46% in Ireland and Nigeria (Omokhodion et al., 2000; Cunningham et al., 2006) and 39% in Hong Kong (Yip, 2004). Besides individual factors, work activities involving joint loading, extreme flexion of the trunk, frequent heavy lifting, maintaining an awkward or static posture, bending, twisting, hard physical work and psychological stress are reported as causal factors for back injuries in a number of studies (Engels et al., 1996; Lagerstro"m & Hagberg 1997; Smedley et al., 1997; Trinkoff et al.,

2003; Yip, 2004). LBP has been studied most frequently amongst nurses, nursing aides and other direct caregivers (Yassi et al., 1995; French et al., 1997; Omokhodion et al., 2000; Yip, 2001; Bejia et al., 2005; Bos et al., 2007; Feng et al., 2007), but despite the high reported prevalence of LBP among hospital staff in these studies, very little information is available on the comparative prevalence of LBP among different hospital workers in Turkey. Specific information on risk factors and LBP in different professional groups is needed for preventive interventions to aim at reducing musculoskeletal complaints to be better targeted.

3.1 Study design

The aim of this study was to find out the caregiver experience of low back pain dealing people with spinal cord injuries. For this reason, the investigator choose a cross sectional study because the cross sectional study is the best way to determine prevalence. The cross sectional study is called “prevalence study” and this can also be used to identify the associations. The most important advantage of cross sectional study is it need not more time and also cheap. As there is no follow up, fewer resources are required to run the study. A cross-sectional study is a descriptive study which providing a "snapshot" of the frequency and characteristics of a disease in a population at a particular point in time.

3.2 Study sites and area

The study sites were selected the Centre for the rehabilitation of the paralyzed (CRP) for data collection. At first researcher developed a standard questionnaire and then select the caregivers as sample for data collection.

3.3 Study population and sampling

A population refers to the members of a clearly defined set or class of people, objects or events that are the focus of the investigation. So all of caregivers in the CRP Hospital who fulfill the inclusion and exclusion criteria of this study are the population of this study. But it was not possible to study the total population within the time of this study, so the investigator took only 50 caregivers as sample who were selected in this study, the researcher choose the caregivers in the selected Centre for the rehabilitation of the paralyzed (CRP) as population to carry out this study according to the inclusion and exclusion criteria. The investigator use the convenience sampling technique due to the time limitation and also for the small size of population and as it is the one of the easiest, cheapest and quicker method of sample selection.

3.4 Sample size

Sampling procedure for cross sectional study done by following equation-

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

Here,

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

$$p = 0.776$$

$$q = 1 - p$$

$$d = 0.05$$

So the investigator aimed to focus his study by 267 samples following the calculation above initially. But as the study was done as a part of fourth professional academic research project and there were some limitations, so the researcher had to limit with 50 caregivers as sample.

3.5 Sampling technique

Sampling refers to the process of selecting the subjects/individual. The researcher will select the purposive/convenience sampling method to draw out the sample from the population.

3.6 Inclusion criteria

- Age group 20-60 years.
- Both male and female are included.
- Those whom are doing work in hospital.
- Those who are willingly participants.

3.7 Exclusion criteria

- Age group below 20yrs and above 60yrs.
- Those who does not work in hospital.
- Those who are not willingly participants.
- Any history of trauma.
- Pregnant women.

3.8 Data collections tools

Data were collected by using a standard Questionnaire include ODI (Oswestry Disability Index) and NPRS (Numeric Pain Rating Scale). In that time some other necessary materials like Pen, Paper, Pencil, File, clip board & note book.

3.9 Data analysis plan

Data was analyzed in Microsoft office Excel 2013 using SPSS 20 version software program. Data will present by using table, pie and bar chart.

3.10 Ethical consideration

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

For this study 50 caregivers were taken as a sample from Center for Rehabilitation of Paralyzed (CRP) Spinal Cord Injury Unit area of Savar were taken to explore the caregivers experience of low back pain dealing people with spinal cord injuries.

Data were numerically coded and analyzed the data by using an SPSS 20.0 version software program and the result captured in Microsoft Excel. In this study the results which were found have been showed in different bar diagrams, pie charts and in tables.

Age groups

Among the respondents, the lowest age was 21 years and highest age was 60 years. According to table, the investigator could say that the frequency of the caregivers were highest in between 31-40 years were 36% (n=18) among the participants the numbers of the participants in 21 - 30 years were 34% (n=17) and in between 41-50 years, there were 26% (n=13) participants and 51- 60 years were 4% (n=2) participants (Table no 4.1).

Table no 4.1: Age of the participants

Age groups	Number (n)	Percent (%)
21 – 30 Years	17	34
31 – 40 Years	18	36
41 – 50 Years	13	26
51 – 60 Years	2	4
Total	50	100

Male & Female ratio

Among the 50 participants 42% (n= 21) were male and 58% (n= 29) were female (Figure 4.1).

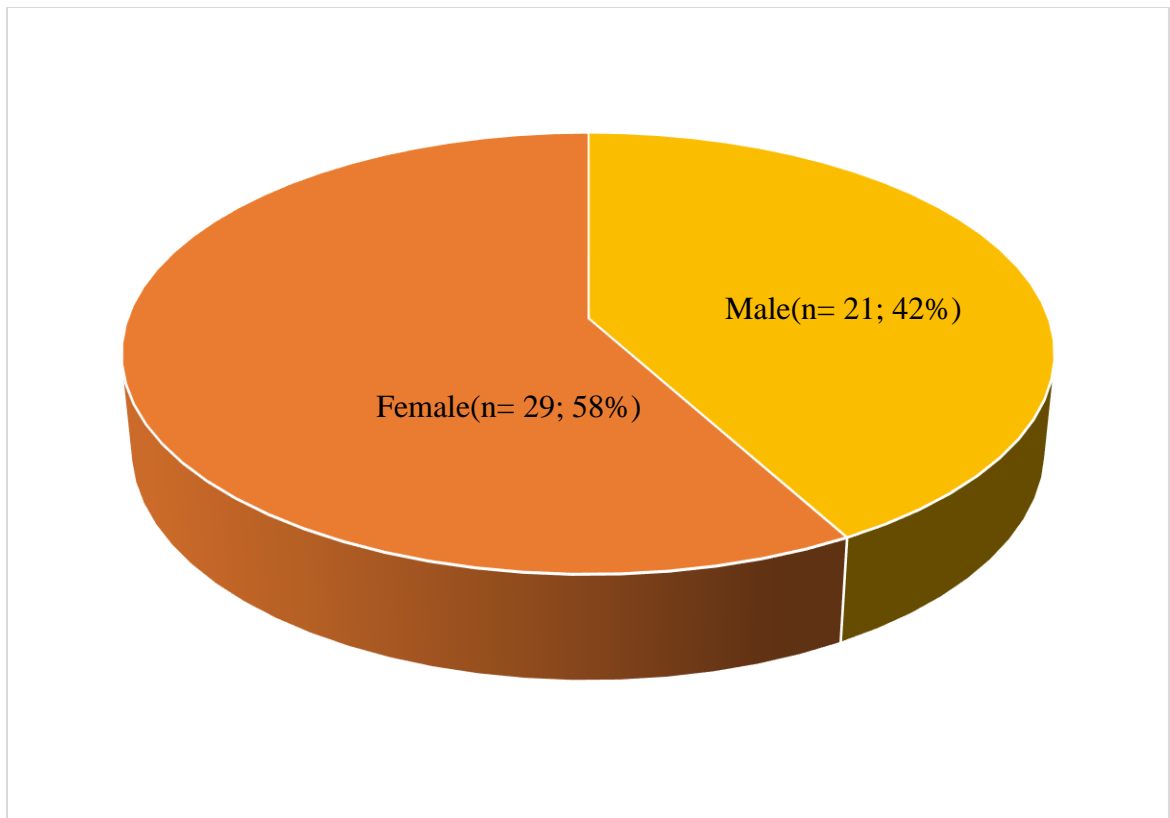


Figure 4.1: Male & Female ratio of the participants

Marital status

Among the caregivers where 86% (n=43) were married and 14% (n=7) were unmarried (Figure 4.2).

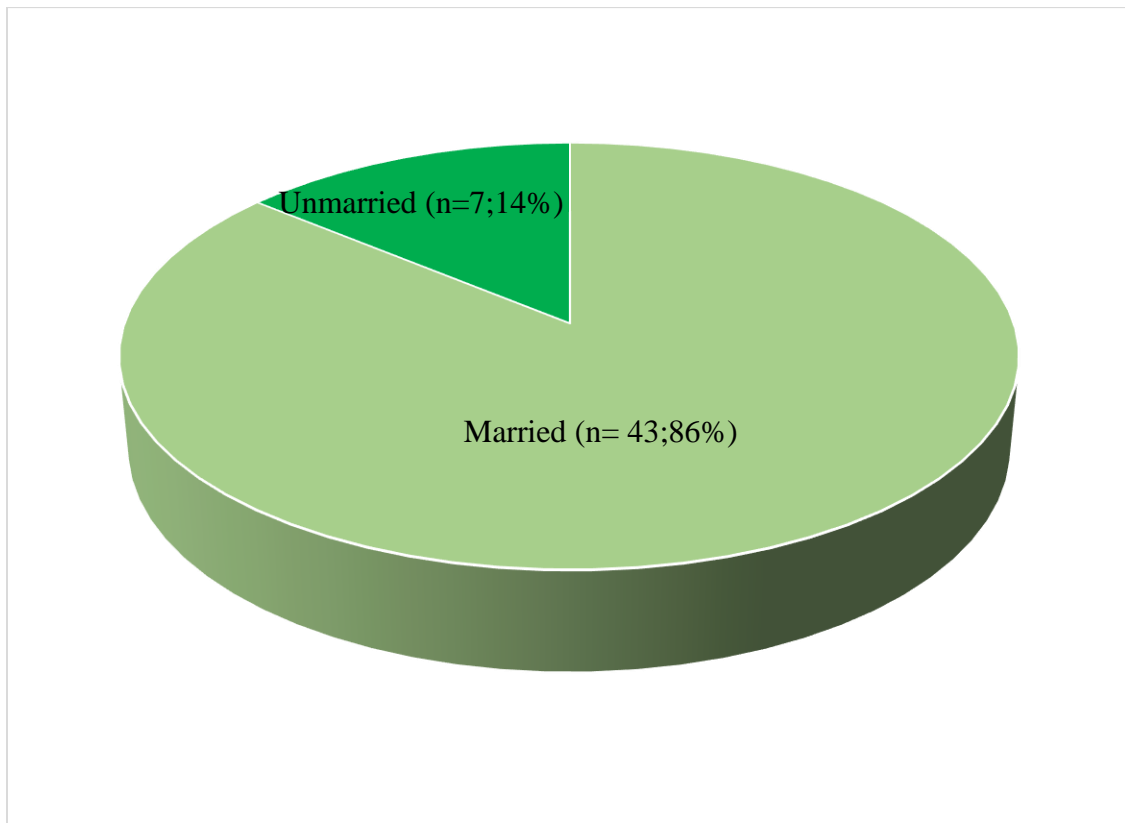


Figure 4.2: Marital status of the participants.

Occupation

In this study, among the participants where highest frequency 54% (n=27) were house wife and second lowest frequency 14% (n=7) were farmer (Figure 4.3).

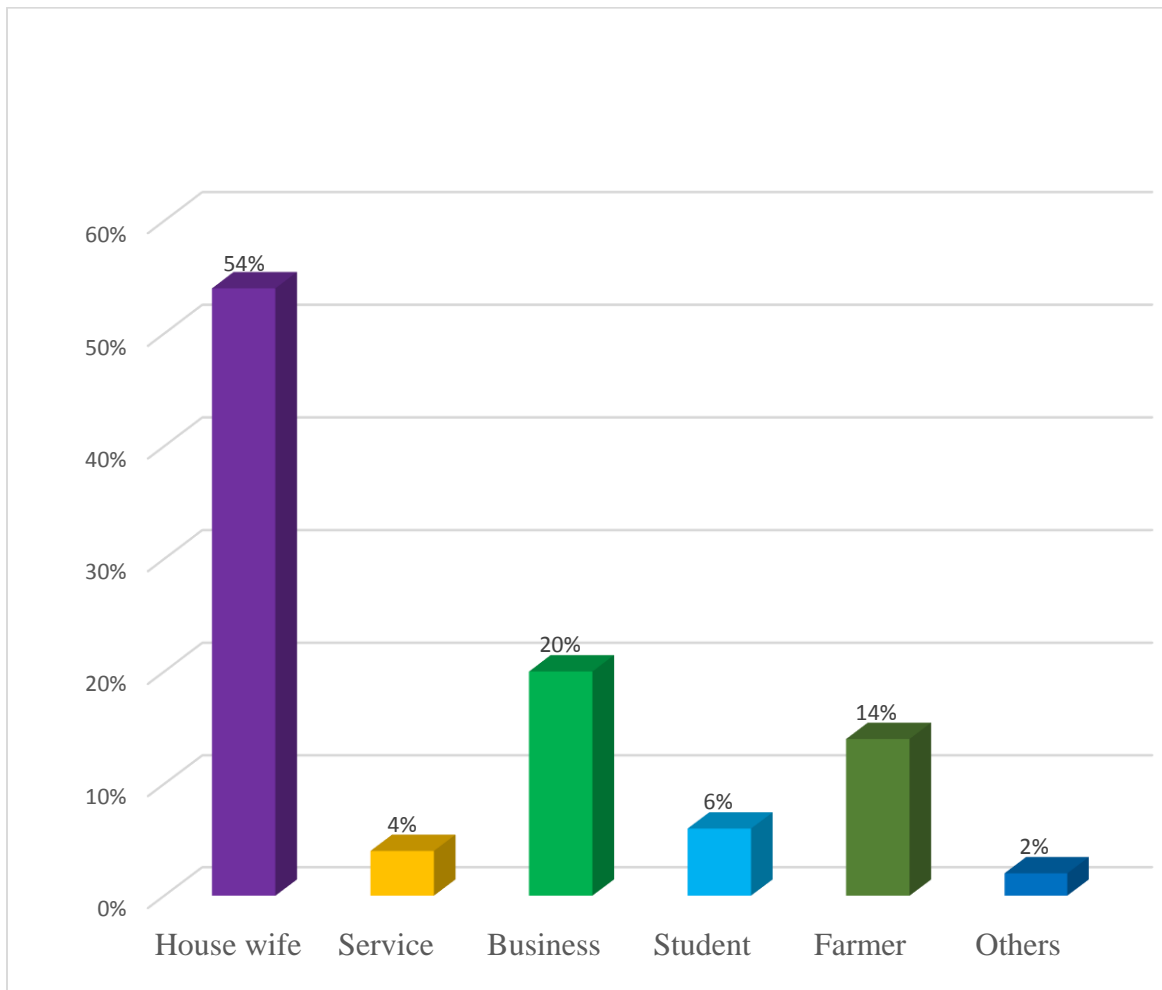


Figure 4.3: Occupation of the participants

Residential area of the participants

Among the participants, about 80% (n=40) caregivers were lives in rural area and 20% (n=10) were lives in urban area (Figure 4.4).

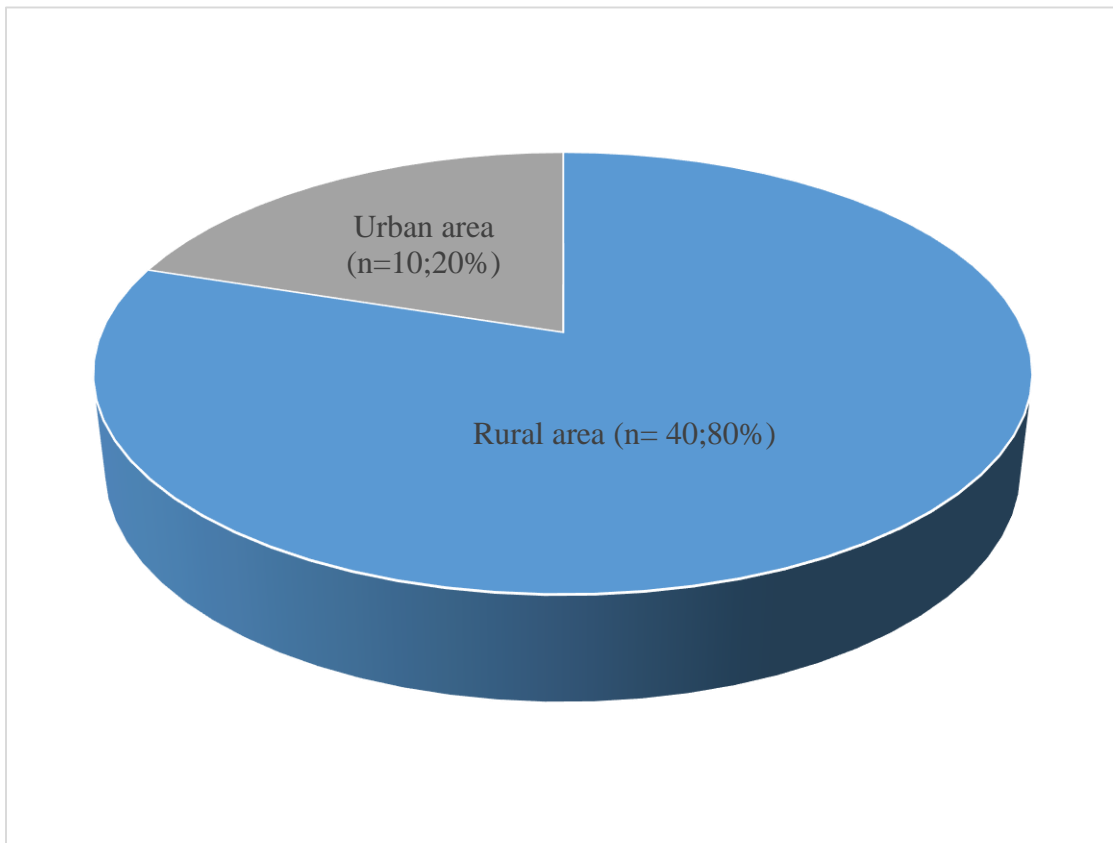


Figure 4.4: Residential area of the participants.

Educational level

Among the participants, about 32% (n=16) caregivers were never attended at school whereas 30% (n=15) caregivers completed primary education, 24% (n=12) of the caregivers completed secondary education, few in numbers about 10% (n=5) were completed higher secondary and very few 4% (n= 2) caregivers were completed bachelor or above (Figure 4.5).

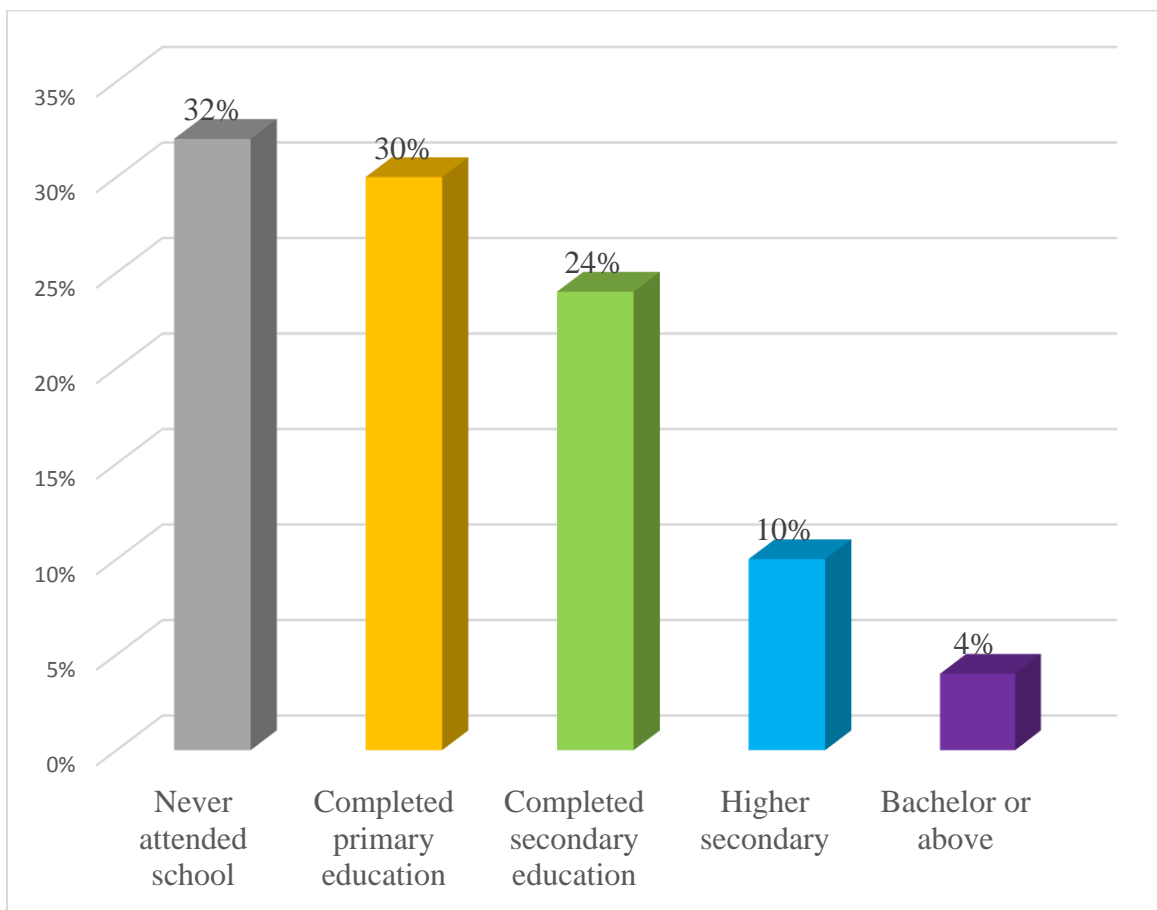


Figure 4.5: Educational level of the participants

Daily caregiving time (hours)

Different caregivers have different time duration of caregiving and the caregivers were highest in numbers between 7-12 and 13-18 hours where the participants were total number 68 % (n=34) and 1- 6 hours, the participants were lowest in number 2% (n=1). More than 18 hours (others) where the participants were in number 30% (n=15) (Table no 4.2).

Table no 4.2: Daily care giving time (hours)

Daily caregiving time (hours)	Number (n)	Percent (%)
1- 6	1	2
7- 12	17	34
13- 18	17	34
Others	15	30
Total	50	100

Pain right now on NPRS scale.

On a scale of 0 to 10, with 0 being no pain and 10 being the worst pain imaginable. Among the all participants, whereas most of the participants experienced highest score of pain (3) at right now were 30% (n=15) (Figure 4.6).

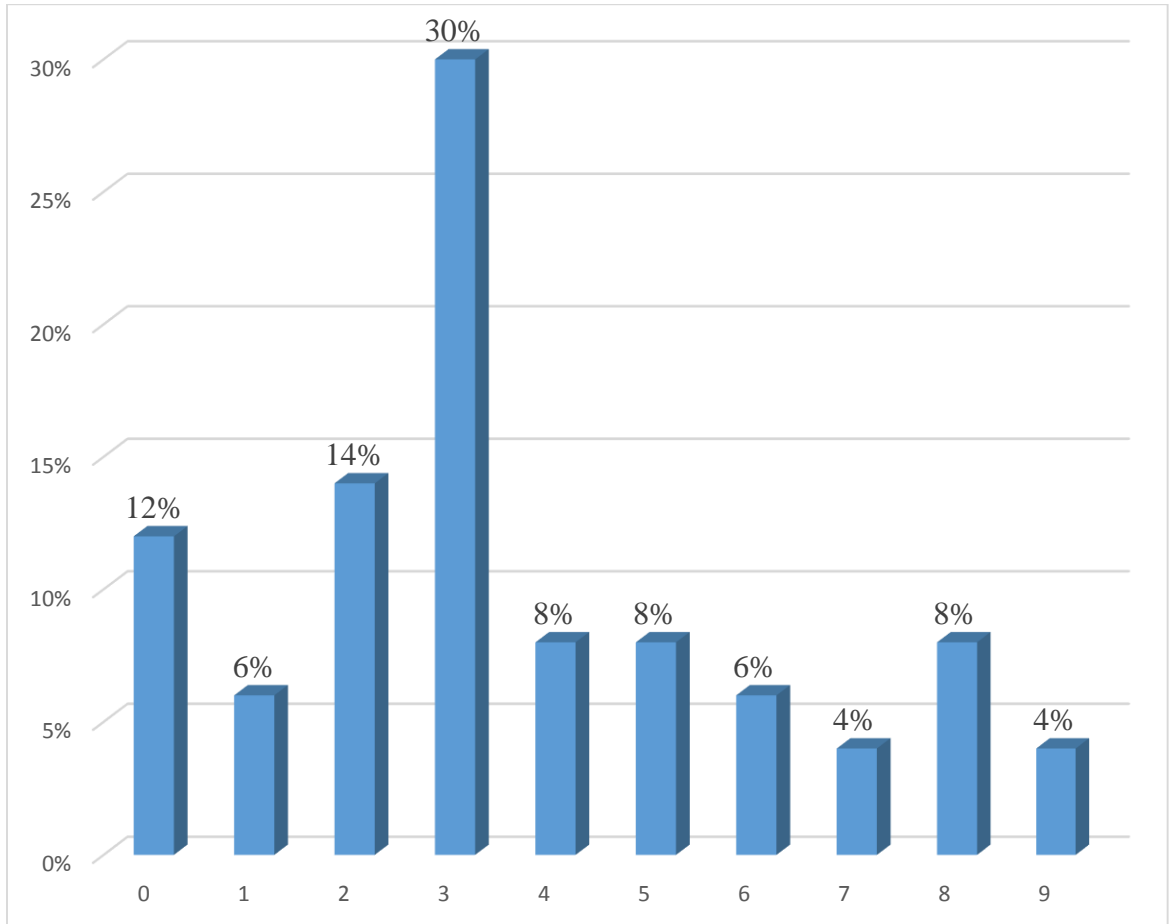


Figure 4.6: Information about how would you rate your pain right now.

Usual level of pain on NPRS scale.

On the same scale, among the all participants, whereas most of the participants experienced highest score (5) at the usual level of pain were 36% (n=18) during the last week (Figure 4.7).

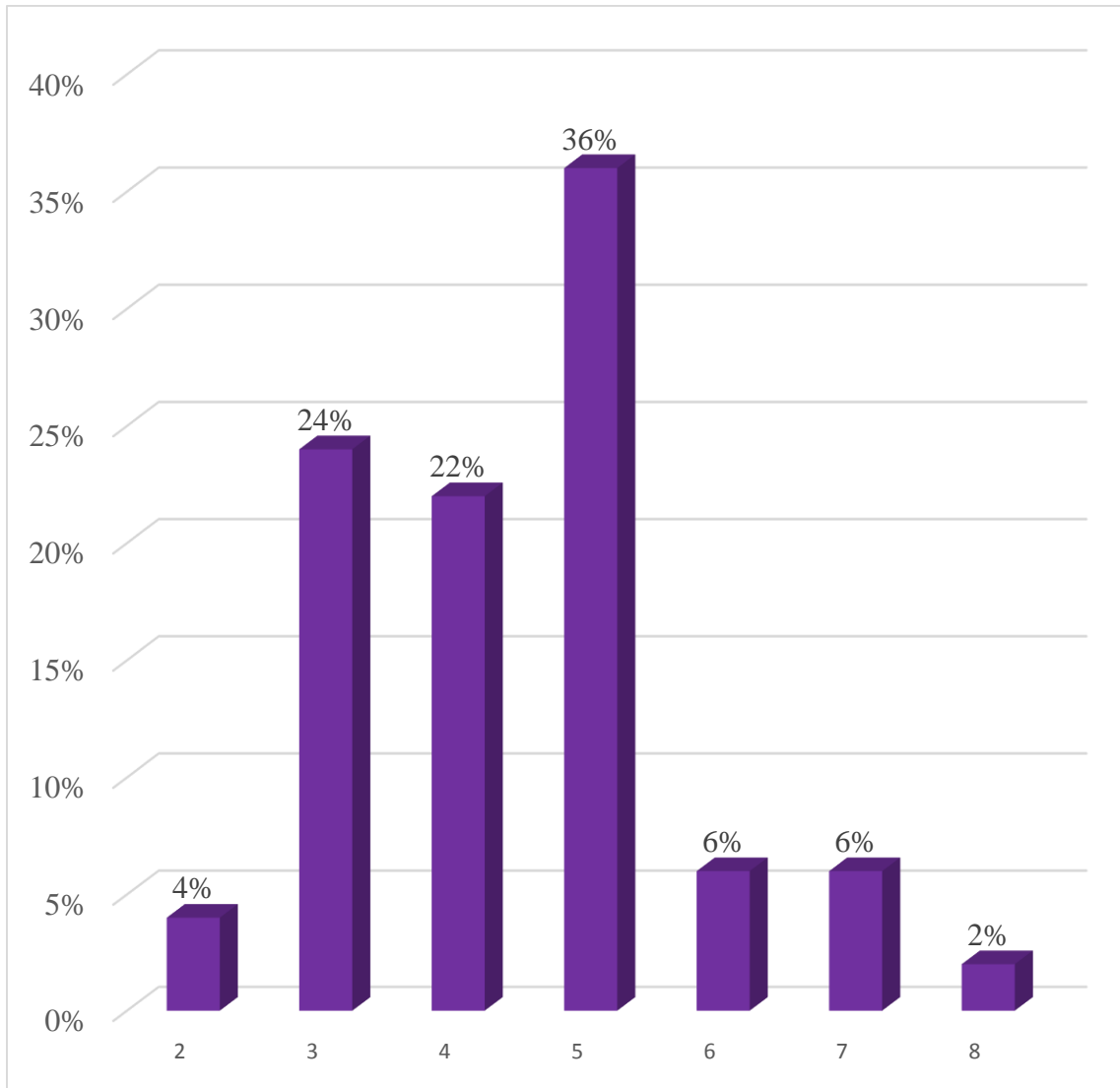


Figure 4.7: Information about how would you rate your usual level of pain during the last week.

Best level of pain on NPRS scale.

On the same scale, in this study, we found that, among 50 participants where most of the participants experienced highest score (2) at the best level of pain were 48% (n=24) during the last week (Figure 4.8).

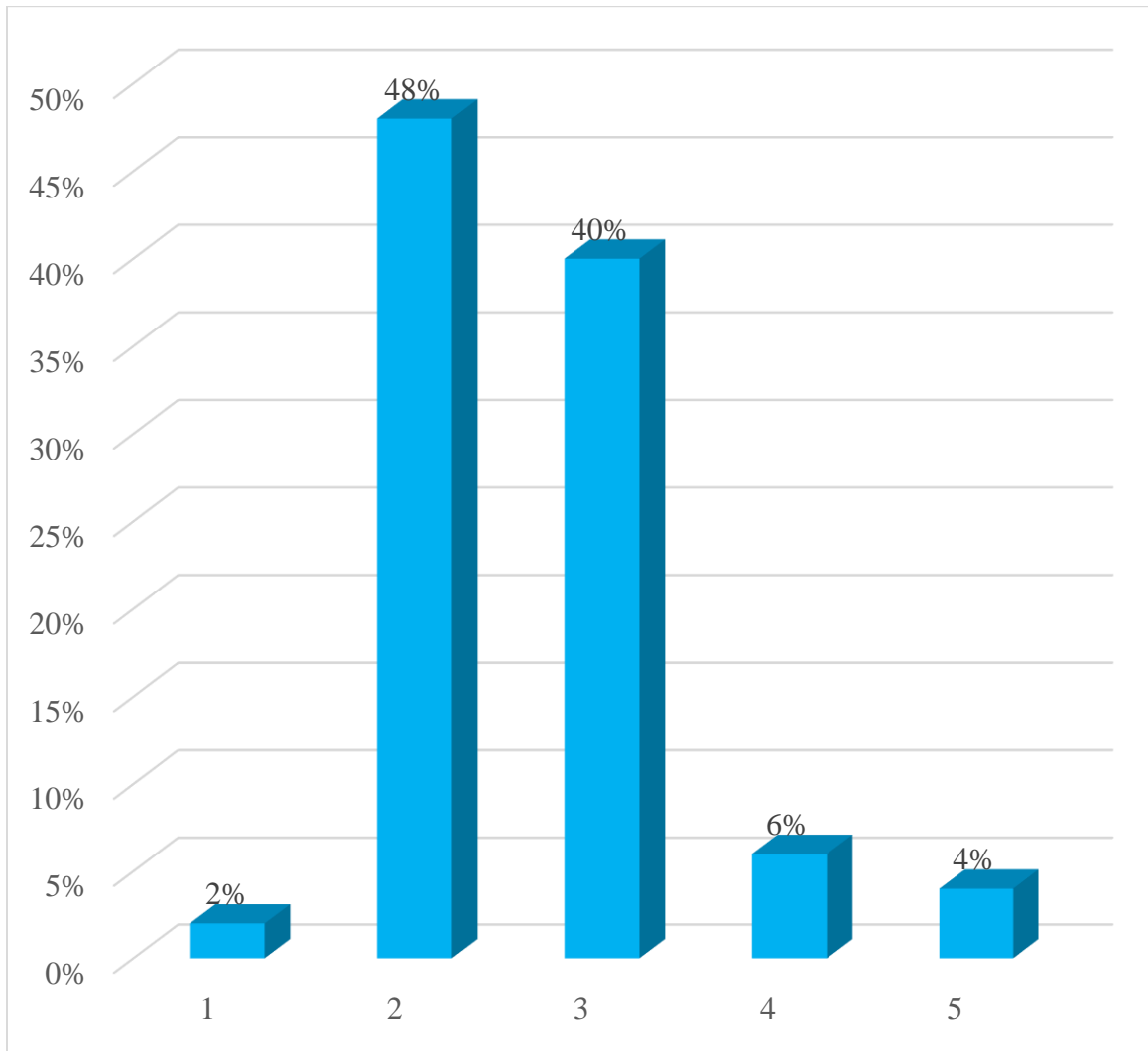


Figure 4.8: Information about how would you rate your best level of pain during the last week.

Worst level of pain on NPRS scale.

On the same scale, among the caregivers experienced highest score (7) were 28% (n=14) worst level of pain during the last week (Figure 4.9).

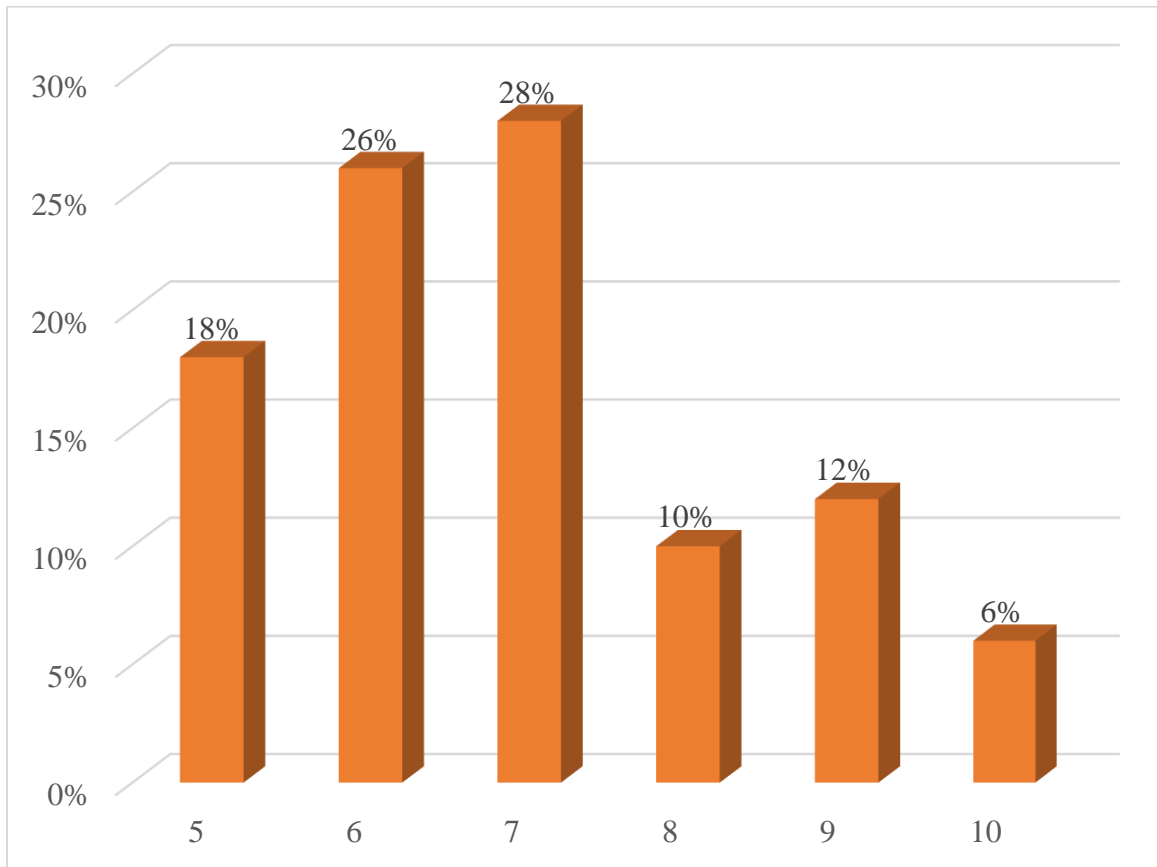


Figure 4.9: Information about how would you rate your worst level of pain during the last week.

Level of disability

Due to LBP, 50% (n=25) caregivers had moderate disability (21%-40%). 22% (n=11) caregivers had severe disability (41%-50%) and 26% (n=13) had minimal disability (0%-20%), then very least of them 2% (n=1) had crippled (61%-80%) which is mentioned in table. Besides, none of them was bed- bound patients (81%-100%) (Figure 4.10).

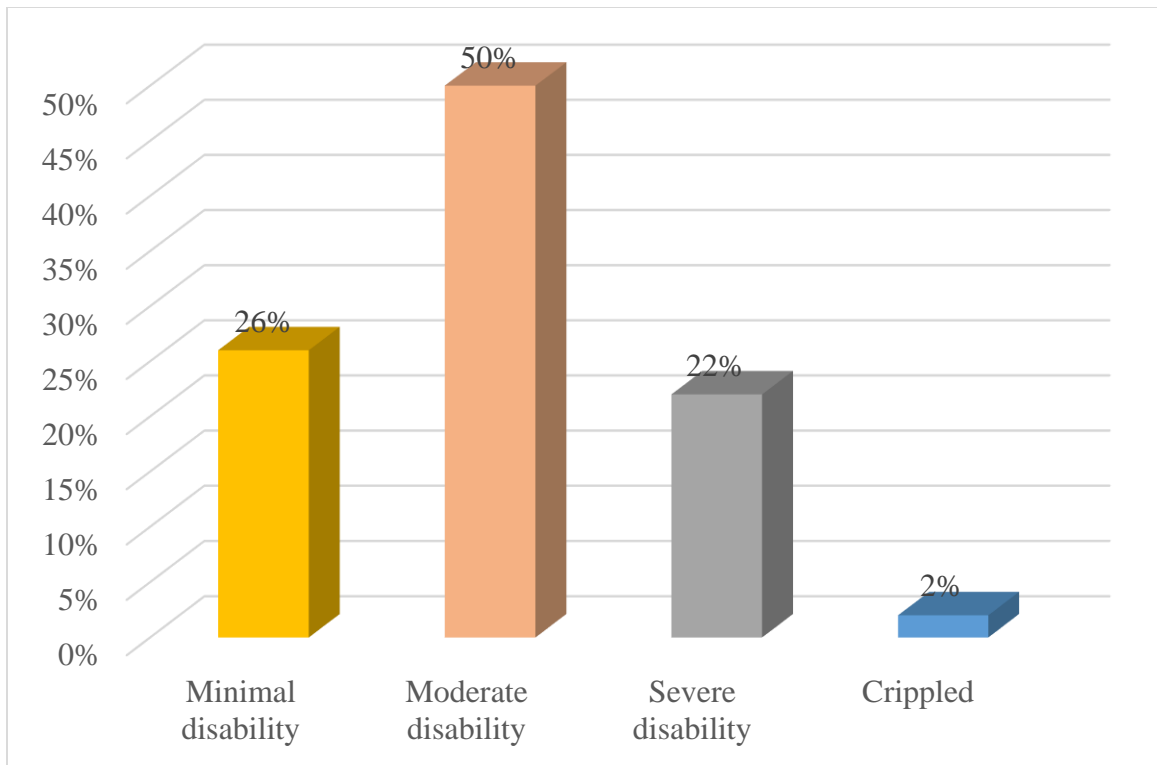


Figure 4.10: Level of disability

Association between duration of caregiving time (hours) and sex of the participants

In relation with the duration of caregiving, where female caregivers were more duration of time (hours) caregiving daily then the male caregivers (Figure 4.11).

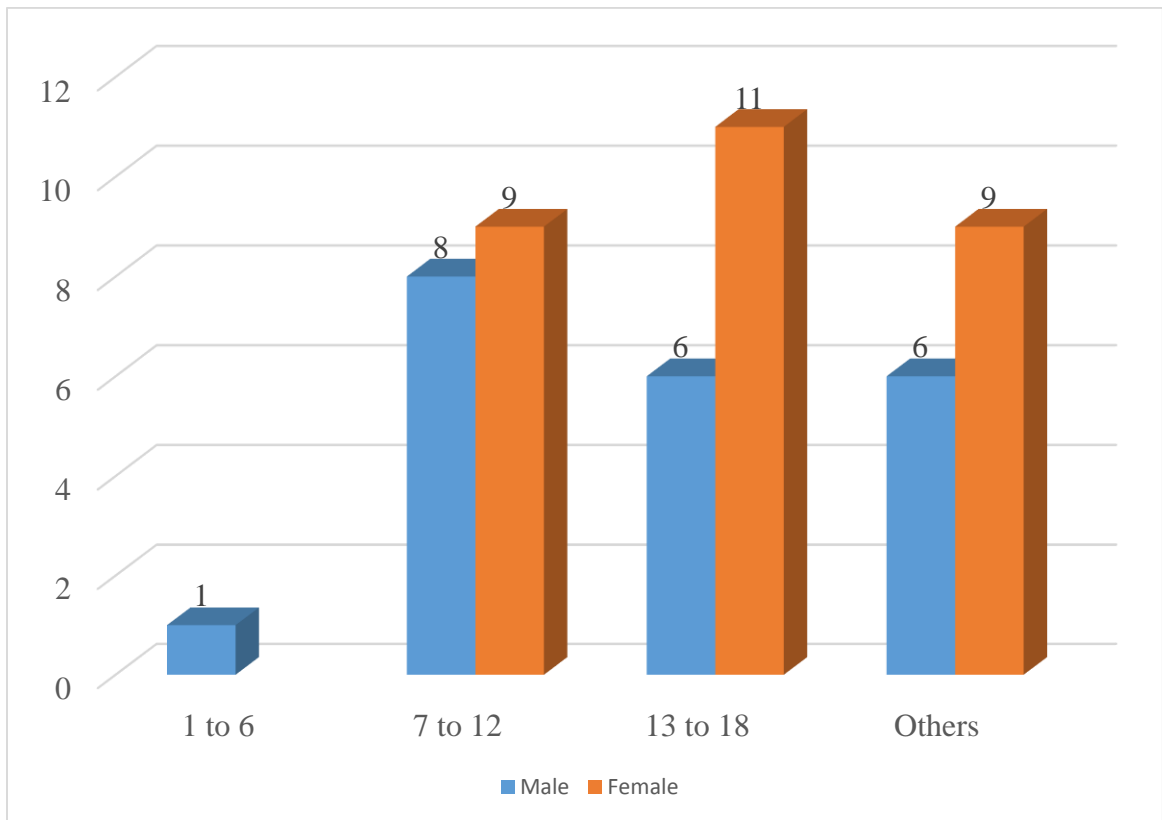


Figure no 4.11: Relation between duration of caregiving time and sex of the participants

Relation between residential area of the participants and level of disability (ODI)

In this study, we find out the rural area participants had more affected disability than the urban area participants. Where 22 participants had moderate disability and 1 participants had crippled (Table no 4.3).

Table no 4.3: Relation between residential area of the participants & level of disability.

Residential Area of the Participants	Oswestry disability index in group				Total
	Minimal disability	Moderate disability	Severe disability	Cripled	
Rural area	10	22	7	1	40
Urban area	3	3	4	--	10
Total	13	25	11	1	50

A cross sectional study was used to assess the caregivers experience of low back pain dealing people with spinal cord injuries. The result of this study showed that according to Oswestry disability index were 50% (n=25) had moderate disability and were 22% (n=11) had severe disability due to low back among the participants. Whereas 58% (n=29) were female and 42% (n=21) were male. Yalcinkaya et al. (2010) worked on their study and showed that there was a significantly higher LBP presence in females than males in the study (46 female caregivers vs. 7 male caregivers). A significantly higher proportion of female caregivers reported depressive symptoms and pain than male caregivers in that literature. Spouses were the highest ratio in literature. In the study of Bardak et al. (2012) the prevalence of LBP was also higher among caregivers of SCI patients with long duration of injury; that was LBP was associated with caregiving duration. This was attributed to activities that cause LBP having been carried out for a long time. In a study of Khanam (2013) showed that there was statistically significant association of LBP of last 12 months with the relationship of female caregivers with the children with CP. Most of the time, the caregivers were female usually the wife or daughter, aged between 22 and 60 years, who were providing care for periods ranging from months to years and generally lives with the patient. In this study, it was found that the caregiver spends an usually 7-12 and 13-18 hour per day caring for the person with SCI, which reflects an almost complete dedication, and is also responsible for housekeeping tasks and the care of other dependent family members. In this study it was found that most of the caregivers 54% (n=27) were housewife, 20% (n=10) were businessman. Farmer, service and student were very few percent. Even most of the primary caregivers (72.9%) were housewives, with no job-related activity outside their residences. In this way, a person may work sporadically to maintain a minimum income and at the same time, have a flexible schedule that allows her to care for the disabled person. Caregivers tend to develop more psychopathology than physical illness, make more visits to physicians and report worse health than the general population (Belasco & Sesso, 2002). The study was conducted on 50 participants of caregivers of the SCI patient. Out of the participant the mean age of the participants was 36 years. The range

is 50 with minimum age 21 years and maximum 60 years. Among the participants the higher numbers of the participants were 31-40 years and the numbers were 36% (n=18) the numbers of 41-50 years were 26% (n=13) and 21-30 year was 34% (n=17) and 51-60 year was 4% (n=2). According to Unalan et al. (2001) SCI survivors distress the family members and especially the primary caregivers who are always with the persons.

In this study it was found that the severity of pain which was measured by using NPRS scale. According to NPRS scale, among the all participants most of the participants experience pain within score (0-10). Pain at right now were 3(30%), usual level of pain were 5(36%), best level of pain were 2(48%) and worst level of pain were 7(28%). Bardak et al. (2012) found that their study also evaluate the severity of pain, using VAS scale. The VAS score were significantly higher among caregivers with LBP. Which was similar to the result of this study, and most important causes of LBP in all respondents in our study were poor socio-economical condition as well as lead poor healthy life style, so naturally their pain adaptability were high, and as well as pay less concentration on their back pain. so the investigator could said that the literature support the result of this study.

The participant's age group and majority of the participant were female and the numbers were 58% (n=29) where male were 42% (n=21). It was also found that, the level of assistance providing in daily living activities for assisting the persons with SCI were strongly correlated with depression in caregivers and the wives report a lots of complain (Unalan et al., 2001). In this study among the 50 participants, about 32% (n=16) caregivers were never attended at school whereas 30% (n=15) caregivers completed primary education, 24 % (n=12) of the caregivers completed secondary education, 10% completed higher secondary education and very few in numbers about 4% (n=2) were bachelor or above. One study showed that among the participants about 75% had primary education and 25% were graduated (Altug et al., 2013). Among the affected participants who were suffering from LBP, 86% (n=43) were married; 14% (n=7) were unmarried. Feng et al. (2007) showed that the prevalence of low back pain among the nurses were 66% in Taiwan. In another studies showed that prevalence of low back pain among the nurses in Hong Kong (41.6%) (Yip, 2001). In this study it was found that association between residential

area of the participants and Oswestry Disability Index. Where among the affected participants who were suffering from LBP, 80% (n=40) were rural area and 20% (n=10) were urban area including level of disability (minimal, moderate, severe and crippled). In this study is to find out the levels of physical disability due to low back pain of caregivers to manage their activities of daily living. Most of the caregivers where 50% (n=25) had moderate disability, 26% (n=13) had minimal disability and 22% (n=11) had severe disability due to LBP. Furthermore, very least of them was crippled and none of them was bed-bound patients due to LBP. According to researcher's knowledge, there is no published article to discuss specifically the levels of physical disability. In a pilot study of Yalcinkaya et al. (2010) showed the comparison between 2 groups; caregivers with LBP and caregivers without LBP of stroke patient according to age, body weight, and care duration, there was not any significant difference. FIM scores of the patients were significantly lower in group 1 than group 2. The group 1 was classified as moderate disability according to ODI score.

Tonga and D'Unger discussed about the correlation of WeeFIM locomotion-mobility in case of children with CP and muscular dystrophy (MD) with ODI scores in case of their mothers. Unalan and colleagues found that SF-36 scores were significantly lower in primary caregivers of SCI survivors compared to age-matched healthy population based controls.

A study revealed that LBP is a leading cause of disability and chronic back pain is more disability. Yip discussed OSLEN et al. (2004) showed that about 30-50% of self-reported LBP implicated daily activity limitations, sleeping interruption and walking interference. Furthermore, patients with LBP experience more restrictions when performing all their physical activities including self-cleaning and dressing as compared to those without LBP.

In any research some limitation may exist, 100% accuracy will not be possible regarding this study, there were some limitations or barriers to consider the result of the study as below:

The first limitation of this study was small sample size. It was taken only 50 caregivers. Another major limitation was time. The time period was very limited to conduct the research project on this topic. As the study period was short so the adequate number of sample could not arrange for the study. This study has provided for the first time data on the caregiver experience of low back pain dealing people with spinal cord injuries in CRP. No research has been done before on this topic. So there was little evidence to support the result of this project in the context in Bangladesh. The research project was done by an undergraduate student and it was first research project for his. 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 honorable teacher.

6.1 Conclusion

Caregivers work in close contact with patients often involves both heavy loads and unfavourable body positions. It also often includes elements such as "save the patient" situations, for example, those in which the patient it's need transferring from bed to wheelchair.

Low back pain (LBP) is an extremely common health problem in the whole world. It is one of the most frequent musculoskeletal disorders in daily practice. As a developing country, it is a very frequent problem in Bangladesh. LBP has great impact causing severe long term physical disability and give rise to huge costs for the society.

LBP is more frequent in caregivers of SCI in the normal population. In this study, the prevalence of LBP was very high among caregivers especially more common in female caregivers who are married. According to, Bangladeshi social and cultural basis female need to maintain family and also need to take care of their patient. At that reason, they face more problems. In this study, half of the people had moderate disability due to LBP. It is showed that there is a problem due to LBP, which claims to conduct further studies at a larger scale in Bangladesh.

Females have to care for their patients and they are the part and parcel of intervention program. Therefore, they need to care for their own health to remain fit. For that reason, they need to take consultancy through Health and Safety and Ergonomics concerns from physiotherapists regarding caring for their patients and managing their everyday life to build-up an effective family-centered practice. Thus, the SCI survivors as well as the caregivers may get their fruitful intervention.

6.2 Recommendations

The aim of the study was to assess the caregivers experience of low back pain dealing people with spinal cord injuries. 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 convenient would be chosen in further in order to enabling the power of generalization the results.
- The duration of the study was relatively short, so in future wider time would be taken for conducting the study.
- Investigator use 50 participants as the sample of this study, in future the sample size would be more.
- The ratio of male and female caregivers were not equal, in case of further the equality of the male and female participant should be maintained for the accuracy of the result.
- In this study, the investigator took the caregivers only from the only one selected hospital of Savar as a sample for the study. So for further study investigator strongly recommended to include the caregivers from all over the Bangladesh to ensure the generalize ability of this study.

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APPENDIX


বাংলাদেশ হেল্থ প্রফেশন্স ইনস্টিটিউট (বিএইচপিআই)
Bangladesh Health Professions Institute (BHPI)
(The Academic Institute of CRP)

Ref. CRP-BHPI/IRB/04/17/70 Date 25/04/17

To
Md. Majidur Rahman
Bachelor of Science in Physiotherapy (B.Sc PT)
Department of Physiotherapy
Session: 2011-2012, DU Reg. No.: 1720
BHPI, CRP, Savar, Dhaka-1343, Bangladesh

Subject: Approval of the thesis proposal – “Caregivers experience of low back pain dealing people with spinal cord injuries”.

Dear Md. Majidur Rahman,

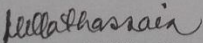
The Institutional Review Board (IRB) of BHPI has reviewed and discussed your application on February 17, 2016 to conduct the above mentioned thesis, with yourself, as the Principal investigator. The Following documents have been reviewed and approved:

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

Since the study involves answering a “Oswestry Disability Index questionnaire” that takes 20 to 30 minutes and have no likelihood of any harm to the participants and have possibility of benefit patients in their pain management and rehabilitation, the members of the Ethics committee has approved the study to be conducted in the presented form at the meeting held at 08:30 AM on February 25, 2016 at BHPI.

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

Best regards,


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

সিআরপি-চাপাইন, সাভার, ঢাকা-১৩৪৩, বাংলাদেশ, ফোন : ৭৭৪৫৪৬৪-৫, ৭৭৪১৪০৪ ফ্যাক্স : ৭৭৪৫০৬৯

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

Permission Letter

3rd September 2016

Head of the Department

Department of the Physiotherapy

Center for the Rehabilitation of the Paralyzed (CRP), Chapain, Savar, Dhaka, 1343

Through: Head of the Department, Department of Physiotherapy,
Bangladesh Health Professions Institute (BHPI).

Subject: Permission for data collection.

Dear Sir,

I respectfully to state that I am a 4th year B.Sc in Physiotherapy student at Bangladesh Health Professions Institute (BHPI). In 4th year we have to do a research project and I have chosen a title that is "Caregivers experience of low back pain dealing people with spinal cord injuries" and my supervisor is Md. Shofiqul Islam, Assistant Professor, Physiotherapy Department, BHPI. I would like to collect data from spinal cord injury (SCI) unit of your department.

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

Yours faithfully

Md. Majidur Rahman

Md. Majidur Rahman

4th year B.Sc in physiotherapy, BHPI.

Class roll: 16.

Session: 2011-2012

Approved

MHS
02/09/16
Mohammad Anwar Hossain
Associate Professor &
Head of Physiotherapy Dept.
CRP, Chapain, Savar, Dhaka-1343

Seen
Shofiq
03-09-16

Forwarded

9/9
03/09/16

Md. Obaidul Haque
Associate Professor & Head of the Department
Department of Physiotherapy
Bangladesh Health Professions Institute (BHPI)
CRP, Chapain, Savar, Dhaka-1343

সম্মতিপত্র (বাংলায়)

(অংশগ্রহনকারীকে পড়ে শোনাতে হবে)

আসলামু আলাইকুম / নমস্কার, আমার নাম মোঃ মাজিদুর রহমান, আমি এই গবেষণাটি বাংলাদেশ হেলথ প্রফেশনাল ইন্সটিটিউটে (বি এইচ পি আই), ঢাকা বিশ্ববিদ্যালয়ের চিকিৎসা অনুষদের অধীনে করছি যা আমার ফিজিওথেরাপী স্নাতক কোর্সের আংশিক অধিভুক্ত যার শিরোনাম হল “মেরুদণ্ডে আঘাতপ্রাপ্ত লোককে সেবাদানকারীদের কোমরে ব্যাথার অভিজ্ঞতা”।

আমি এই গবেষণাটির মাধ্যমে “ মেরুদণ্ডে আঘাতপ্রাপ্ত লোককে সেবাকারীদের কোমরে ব্যাথার অভিজ্ঞতা” দেখতে চাচ্ছি। আমি এক্ষেত্রে কিছু ব্যক্তিগত এবং কোমর ব্যাথা সম্পর্কে কিছু আনুষঙ্গিক তথ্য জানতে চাচ্ছি। ফরমে উল্লিখিত কিছু প্রশ্নের উত্তর দেয়ার জন্য আন্তরিকভাবে অনুরোধ জানাচ্ছি যা আনুমানিক ২০ – ৩০ মিনিট সময় নিবে।

আমি আপনাকে অবগত করছি যে, এটা কেবলমাত্র আমার অধ্যয়নের সাথে সম্পর্কযুক্ত এবং অন্য কোন উদ্দেশ্যে ব্যবহার হবে না। আমি আপনাকে আরো নিশ্চয়তা প্রদান করছি যে সকল তথ্য প্রদান করবেন তার গোপনীয়তা বজায় থাকবে এবং এই তথ্যের উৎস অপ্রকাশিত থাকবে। এমনকি গবেষণাটির শেষে এই সকল তথ্য নষ্ট করে ফেলা হবে। এই অধ্যয়নে আপনার অংশগ্রহন স্বেচ্ছাপ্রণোদিত এবং আপনি যে কোন সময় এই অধ্যয়ন থেকে কোন নেতিবাচক এবং ফলাফল কোন বিরতবোধ ছাড়াই নিজে থেকে প্রত্যাহার করতে পারবেন। এছাড়াও কোন নির্দিষ্ট প্রশ্ন অপছন্দ হলে উত্তর না দেয়ার এবং সাক্ষাৎকারের সময় কোন উত্তর না দিতে চাওয়ার অধিকার আপনার আছে।

যদি আপনার এই গবেষণা সম্পর্কে কিছু প্রশ্ন করার থাকে অথবা একজন অংশগ্রহনকারী হিসেবে এটা আপনার অধিকার, তাহলে আপনি গবেষক মোঃ মাজিদুর রহমান অথবা মোঃ শফিকুল ইসলাম, সহকারী অধ্যাপকের সাথে যোগাযোগ করতে পারেন। ফিজিওথেরাপী বিভাগ, বি এইচ পি আই, সাভার, ঢাকা – ১৩৪৩ এই ঠিকানায়।

এই সাক্ষাৎকার শুরু করার আগে আপনার কি কোন প্রশ্ন আছে ?

আমি আপনার অনুমতি নিয়ে এই সাক্ষাৎকার শুরু করতে যাচ্ছি ?

হ্যাঁ না

সাক্ষাৎকার প্রদানকারীর স্বাক্ষর..... তারিখ

সাক্ষাৎকার গ্রহনকারীর স্বাক্ষর..... তারিখ

সাক্ষীর স্বাক্ষর..... তারিখ

CONSENT FORM (English)

(Please read out the participants)

Assalamu-alaikum/ Namasker. My name is Md. Majidur Rahman, student of B.Sc. in physiotherapy at Bangladesh Health Professions Institute (BHPI), CRP. I am conducting a study for partial fulfillment of Bachelor of Science in Physiotherapy degree, titled, **“Caregiver experience of low back Pain dealing people with spinal cord injuries”**

Through this research, I will see the caregiver experience of low back pain dealing people with spinal cord injuries. For this regard, I would need to collect data from the caregiver having low back pain. You will need to answer some questions which are mentioned in this form. It will take approximately 20-30 minutes.

I would like to inform you that this is a purely academic study and will not be used for any other purpose. All information provided by you will keep in a locker as confidential and it will be ensured that the source of information remains anonymous and also all information will be destroyed after completion of the study. Your participation in this study is voluntary and you may withdraw yourself at any time during this study without any negative consequences. You also have the right not to answer a particular question that you don't like or do not want to answer during interview.

If you have any query about the study or your right as a participant, you may contact with, researcher Md. Majidur Rahman or Md. Shofiqul Islam, Assistant professor, Department of physiotherapy, BHPI, CRP, Savar, Dhaka-1343.

Do you have any questions before I start?

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

Yes:

No:

Signature of the Interviewer..... Date

Signature of the participant Date

Signature of the Witness..... Date

QUESTIONNAIRE (In English)

Part-1: Personal Information:

- Name:**
- Address:**
 - Village/house no:
 - Post office:
 - Thana:
 - District:
- Mobile no:**

Part-2: Socio-demographic Information:

- Age:**
- Sex:**
 - 1. Male
 - 2. Female
- Marital status:**
 - 1. Married 2. Unmarried
 - 3. Others
- Religion:**
 - 1. Muslim 2.Hindu
 - 3. Christian 4.Buddho
 - 5. Others

Occupation:

- | | |
|----------------|-------------------|
| 1. House wife | 2. Service holder |
| 3. Businessman | 4. Student |
| 5. Farmer | 6. Others |

Residential area:

1. Rural area
2. Urban area

Educational level:

1. Never attended school
2. Completed primary education
3. Completed secondary education
4. Higher secondary
5. Bachelor or above
6. Others

Relation with patient:

- | | |
|-------------------|------------------|
| 1. Husband / wife | 2. Father/mother |
| 3. Brother/sister | 4. Others |

Daily caregiving time (hours)

- | | |
|-----------|-----------|
| 1. 1 -6 | 2. 7 -12 |
| 3. 13 -18 | 4. Others |

Part-3: Back pain related Questions: (NPRS)

1. On a scale of 0 to 10, with 0 being no pain at all and 10 being the worst pain imaginable, how would you rate your pain RIGHT NOW.

0 1 2 3 4 5 6 7 8 9 10

No pain

Worst pain Imaginable

2. On the same scale, how would you rate your USUAL level of pain during the last week.

0 1 2 3 4 5 6 7 8 9 10

No pain

Worst pain Imaginable

3. On the same scale, how would you rate your BEST level of pain during the last week.

0 1 2 3 4 5 6 7 8 9 10

No pain

Worst pain Imaginable

4. On the same scale, how would you rate your WORST level of pain during the last week.

0 1 2 3 4 5 6 7 8 9 10

No pain

Worst pain Imaginable

Part-4: Oswestry Low Back Pain Disability Questionnaire:

1- Pain Intensity

- I can tolerate the pain I have without having to use pain medication. [0 points]
- The pain is bad but I manage without having to take pain medication. [1 points]
- Pain medication provides me complete relief from pain. [2 points]
- Pain medication provides me moderate relief from pain. [3 points]
- Pain medication provides me little relief from pain. [4 points]
- Pain medication has no effect on the pain [5 points]

2- Personal Care (Washing, Dressing, etc.)

- I can take care of myself normally without causing increased pain. [0 points]
- I can take care of myself normally but it increases my pain. [1 points]
- It is painful to take care of myself and I am slow and careful. [2 points]
- I need help but I am able to manage most of my personal care. [3 points]
- I need help every day in most aspects of my care. [4 points]
- I do not get dressed, wash with difficulty and stay in bed. [5 points]

3. Lifting

- I can lift heavy weights without increased pain. [0 points]
- I can lift heavy weights but it causes increased pain. [1 points]
- Pain prevents me from lifting heavy weights off the floor, but I can manage if weights are conveniently positioned, e.g. on a table. [2 points]
- Pain prevents me from lifting heavy weights but I can manage light to medium weights if they are conveniently positioned. [3 points]
- I can lift only very light weights. [4 points]
- I cannot lift or carry anything at all. [5 points]

4- Walking

- Pain does not prevent me walking any distance. [0 points]
- Pain prevents me walking more than 1 mile. [1 points]
- Pain prevents me walking more than ½ mile [2 points]
- Pain prevents me walking more than ¼ mile [3 points]
- I can only walk using crutches or a cane. [4 points]
- I am in bed most of the time and have to crawl to the toilet. [5 points]

5- Sitting

- I can sit in any chair as long as I like. [0 points]
- I can only sit in my favorite chair as long as I like. [1 points]
- Pain prevents me sitting more than 1 hour. [2 points]
- Pain prevents me from sitting more than ½ hour. [3 points]
- Pain prevents me from sitting more than 10 mins. [4 points]
- Pain prevents me from sitting at all. [5 points]

6- Standing

- I can stand as long as I want without increased pain. [0 points]
- I can stand as long as I want but increases my pain. [1 points]
- Pain prevents me from standing for more than 1 hour. [2 points]
- Pain prevents me from standing for more than ½ hour. [3 points]
- Pain prevents me from standing for more than 10 mins. [4 points]
- Pain prevents me from standing at all. [5 points]

7- Sleeping

- Pain does not prevent me from sleeping well. [0 points]
- I can sleep well only by using pain medication. [1 points]
- Even when I take pain medication, I sleep less than 6 hours. [2 points]
- Even when I take pain medication, I sleep less than 4 hours. [3 points]
- Even when I take pain medication, I sleep less than 2 hours. [4 points]
- Pain prevents me from sleeping at all. [5 points]

8- Sex life (If applicable)

- My sex life is normal and causes no extra pain. [0 points]
- My sex life is normal but causes some extra pain. [1 points]
- My sex life is nearly normal but is very painful. [2 points]
- My sex life is severely restricted by pain. [3 points]
- My sex life is nearly absent because of pain. [4 points]
- Pain prevents any sex life at all. [5 points]

9- Social Life

- My social life is normal and does not increase my pain. [0 points]
- My social life is normal, but it increases my level of pain. [1 points]
- Pain prevents me from participating in more energetic activities (example - sports, dancing, etc). [2 points]
- Pain prevents me from going out very often. [3 points]
- Pain has restricted my social life to my home. [4 points]
- I have hardly any social life because of my pain. [5 points]

10- Traveling

- I can travel anywhere without increased pain. [0 points]
- I can travel anywhere but it increases my pain. [1 points]
- Pain restricts travel over 2 hours. [2 points]
- Pain restricts travel over 1 hour. [3 points]
- Pain restricts my travel to short necessary journeys under ½ hour. [4 points]
- Pain prevents all travel except for visits to the doctor/therapist or hospital. [5 points]

