PREVALENCE OF USING LUMBAR CORSET IN LOW BACK PAIN PATIENTS

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

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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

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DECLARATION

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

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Acronyms

BHPI	Bangladesh Health Professions Institute.
BMI	Body Mass Index
BMRC	Bangladesh Medical Research Council
CRP	Centre for the Rehabilitation of the Paralysed.
IRB	Institutional Review Board
LBP	Low Back Pain
MS	Musculoskeletal
PT	Physiotherapy
SPSS	Statistical Package for the Social Sciences.
USA	United States of America
VAS	Visual Analogue Scale
WHO	World Health Organization

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Abstract

Purpose: To identify the prevalence of using lumbar corset in LBP, To assess whether lumbar corsets are being used to control lower back pain in our study , To explore the socio-demography (age, sex, marital status, educational background) of the participant who are using lumber corset, to assess the severity of pain by using Visual Analogue Scale and to identify the duration of pain, to measure the severity of pain according to vas scale, to determine the satisfaction level of using lumbar corset. *Methodology*: A quantitative (cross sectional) research model in is carried out in this study. Purposively 50 participants who have back pain are collected from CRP musculoskeletal unit in savar, Dhaka, Bangladesh. The instruments used included direct interview, a body discomfort assessment tool that consist of Visual Analogue Scale (VAS) and a questionnaire. Data was collected by using mixed type of questionnaire. Descriptive statistic was used for data analysis which focused through table, pie chart and bar chart and confidentiality of information and voluntarily participation were ensured by the researcher. Data were numerically coded and captured in Excel, using an SPSS 16.0 version program. *Results*: The finding of the study was that the 46% persons are using lumbar corset for LBP. In my study female 52% are using corset and male, 48% uses corset for their LBP. So female are more using corset than male. 82.6% uses corset in journey and 17.4% not uses corset in journey. 56.5% said that by using corset in journey their pain have been reduced and 43.5% told that their pain was same before using corset. The rate of using lumbar corset is higher to the participant who had pain in back and radiate to below knee. Central back region 26% , both buttock 0%, radiated above knee 26% and radiated to the below knee is 48% and 8.7% have mild pain (1-3) in VAS scale.60.9% total have experience of moderate pain (4-6) and 30.4% experiences severe pain (7-10) in VAS scale. The patient who are using lumber corset among them satisfaction level is 26.1% were not satisfied, 47.8% patients were minimum satisfied, 21.7% (n=5) were moderate satisfied and only 4.3% (n=1) are highly satisfied. *Conclusion***:** The findings of this study suggest that prevalence of using corset is higher but satisfaction level is lower in Bangladesh.

CHAPTER – I INTRODUCTION

BACKGROUND

Low-back pain is one of the most common painful conditions experienced by humans throughout their life (Violante et al., 2015). It is responsible for a major population of people staying away from work and visiting a medical practitioner. About 70% to 80% of the world's population has at least one episode of low back pain in their life time (Charoenchai et al., 2006). LBP is a major public health problem in the USA because more than 34 million (17%) adults reported LBP only and 19 million (9%) reported LBP and neck pain (Biglarian et al., 2012). Low back pain (LBP) is a major health problem with two thirds of adults suffering from LBP at some time in their lives and approximately 12% to 44% have LBP at any given time (Janwantanakul et al., 2011). Low back pain is a major health problem in modern society. It is one of the most common and challenging musculoskeletal problem in primary care. It is the number one most common cause of activity limitation, the second most frequent cause of doctor's visits and the third most common cause of surgical procedures in USA (Apfel et al., 2010).

It has become a great public health problem and is a frequent cause of absenteeism and requires for disabilities pensions. That's why it is called 20th century's disaster (Sparkes, 2005). In general people LBP is a very common problem that experience at some point in their life (Hoy et al., 2012). Approximately 70-85% population suffers LBP at some point of their lives in USA (Buselli et al., 2011). Hancock et al. (2011) mentioned that in European country the lifetime prevalence of LBP is more than 70%. Lifetime prevalence of LBP was between 51% and 84% where point prevalence ranged between 14% and 42%according to a European review article (Horvath et al., 2010). United States of America (USA) and Australia that such of developed countries, prevalence of LBP ranges from 26.4% to 79.2% and in developed countries lifetime prevalence of LBP is reported to be up to 85% (Louw et al., 2007). Among adult population LBP is the most common everyday complaint. In Australia about 20% of the adult population experiences LBP at any had given time (Alsaadi et al., 2011). In the Netherlands, 15% of the total working-age population currently claims disability insurance for their LBP. Each year, low back pain

accounts for 13% of all new cases. Nonetheless, there are indications that physical activities, i.e. manual material handling, bending, twisting (heavy load) and whole-body vibration, are possibly risk factors for acute LBP. Quantification of mechanical load, posture and spinal load applied could be useful to identify the physical risk factors (Airaksinen et al., 2006). Pain in the lower back is called low back pain; it also affects muscle tendons ligaments and nerves. This can develop when the same muscles are used over and over again or for a long time without taking time to rest .The chance of getting this type of injury increases if the force exerted is high and or the job requires an awkward posture. Low back pain may be postural dysfunctional or derangement syndrome (Mckenzie, 1995).

Lumbar supports are used in the management of low-back pain and are also commonly used in the workplace to prevent low-back pain injuries in employees (Wassell, 2000). Lumbar supports are provided as treatment to people suffering from LBP with the aim to decrease impairment and disability. They are also used as an intervention to prevent the onset of LBP (primary prevention) or to prevent recurrent LBP episodes (secondary prevention). There is a wide variety of lumbar supports, both flexible and rigid. They can be worn under or over clothing, with or without shoulder straps, during the whole day or part of the day (Sato et al., 2012). In an updated review, there was moderate evidence that lumbar supports are not more effective than no intervention or training in preventing low-back pain (Duijvenbode et al., 2011).

1.2 Rationale

The aim of the study was to find out the prevalence of using lumbar corset among low back pain patient. 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 CRP a large number of people attend to get treatment of LBP but aim of treatment does not succeed always due to patient quality of life. Many of the patients use lumber corset without any prescription or with prescription by professionals. We know that, to support low back region lumbar corset was prescribed in working hours and especially during journey. It was not advised to wear during exercise, sleeping and taking shower. It was given to support the lower back, to improve posture and to minimize movement of lumbar spine. Various modern research show that only the lumber corset are not much useful for reducing back pain. It is important to know how many persons are using lumber corset for reducing pain. Physiotherapy profession is developing profession in our country. To mention about this we need to know some up to date information that can help for the both the patient‘s and therapist. This kind of research was not done before in Bangladesh, so it will be a resource for physiotherapist and other medical professionals for the quick analysis to find out the efficiency of the treatment that why the therapy is working faster or not. It will also help professional who are prescribing lumbar corset, that is it effective to reduce pain or not, and also help to know the satisfaction level of patients after using corset.

As we are the people of developing country so most of our public are not concern about their health, and they don’t know the usefulness or harm of using lumber corset. We know Research makes the profession strongest. So there is no alternative option to do research as a professional to develop the profession

1.3 Research question

What is the Prevalence of using lumbar corset in Low back pain patients?

1.4 Objectives

1.4.1 General objective

To find out the prevalence of using lumbar corset in low back pain patients

1.4.2 Specific objectives:

To investigate the ratio of using lumbar corset in low back pain patients.

To find out more affected age group having LBP using lumber corset.

To identify more affected gender group of using lumbar corset.

To find out experience of pain level before using lumbar corset.

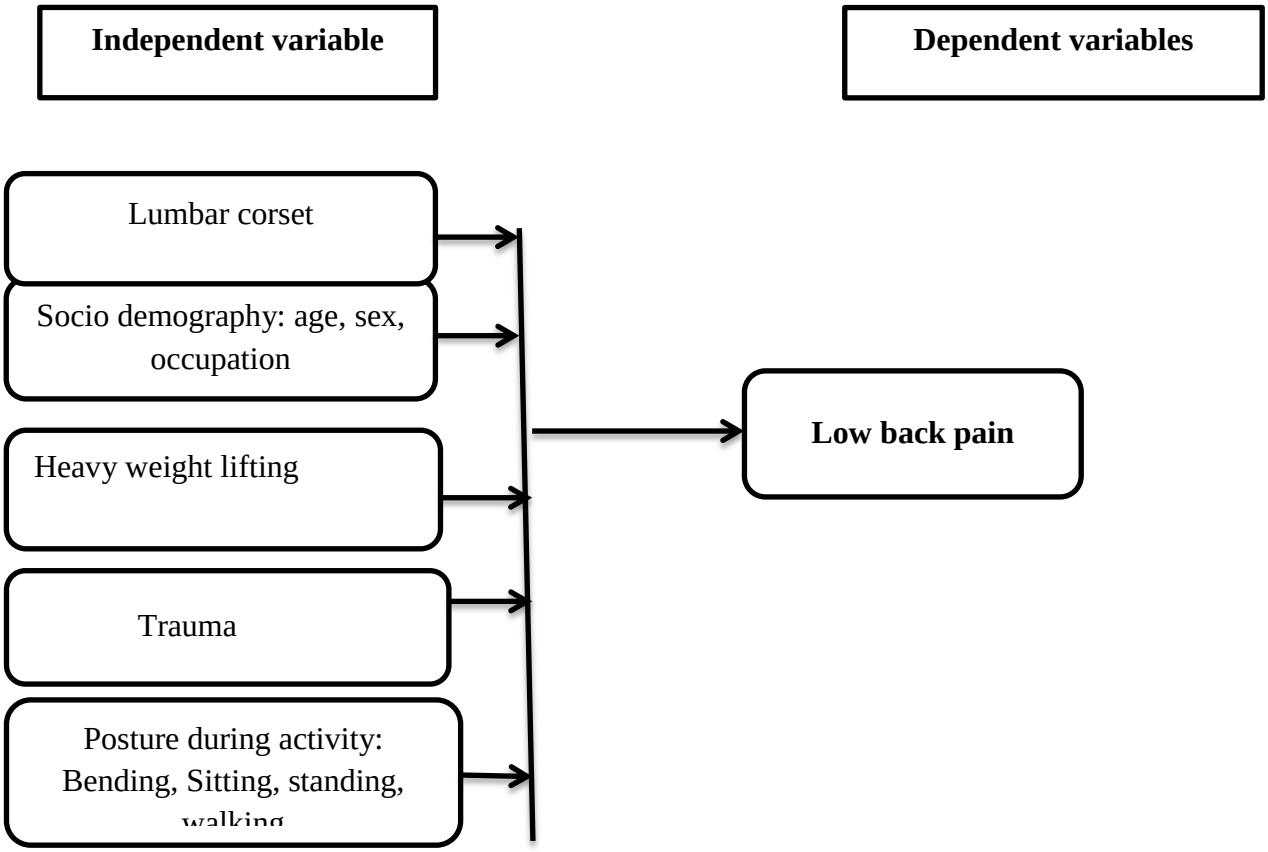
To find out experience of pain level after using lumbar corset.

To know satisfaction level after using lumbar corset.

To identify how many people use lumbar corset due to low back pain

1.5 List of Variables

Conceptual framework



1.6 Operational definition

Prevalence

Prevalence is the total number of cases of a disease present in a given population at a specific time.

Low back pain

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

Lumbar corset

The Lumbosacral Support is a corset type orthosis often used to treat low back pain. Other conditions that may be treated with this type of device include: muscle strain or sprain, post-surgical, maternity, spinal stenosis, spondylosis, spondylolysis, spondylolisthesis, degenerative joint disease, degenerative disc disease, disc herniation, and osteoarthritis.

CHAPTER – II LITERATURE REVIEW

Back pain also known as “dorsopathy” is pain felt in the back that may come from the muscles, nerves, bones, joints or other structures in the spine. The pain may constant or intermittent, stay in one place or refer or radiate to other areas. It may be a dull ache or a sharp or burning sensation. Pain often referred to the hip, buttock or one leg. The cause may be muscle strain or trigger point, instability due to weak postural muscles, hypo mobile spinal facet joints, or degeneration or herniation of spinal disks. LBP perhaps more precisely called lumbago or lumbosacral pain occurs below the 12th rib and above the gluteal folds (Sikiru & Hanifa, 2010). Low back pain is defined as a pain or discomfort located below the margin of the 12th rib and above the inferior gluteal fold, with or without leg pain. This is a very common complaint (Meucci et al., 2013).It is a growing health problem in the industrialized world. Despite the high medical expenses required for its management, the prevalence of LBP is increasing (Martin et al., 2008). Low back pain remains to be the single most common reason for a visit to a general practitioner and is also the greatest cause for work- related disability. It is from mechanical origin is identified by the presence or absence of symptoms and signs with different postures or movements.

Bunzli et al. (2010) stated that LBP is categorized by the duration of symptoms as: Acute LBP (0–6 weeks), Sub acute LBP (7–12 weeks), Chronic LBP (>12 weeks). Some studies have shown that chronic low back pain that last for more than 3 months affects an estimated 15-45% of the population and is the most common cause of disability in individuals between the ages of 45 and 65 years (Middleton & Fish., 2009). Most authors consider, pain to be “chronic” when it last for three months or more. However, some authors consider low back pain as chronic when it lasts for seven weeks or more, while some others require duration of six months or more (Meucci et al., 2013).

It is estimated that, in all populations, an individual has an 80% probability of having low back pain at some period during their life time, and about 18% of the population experiences low back pain at any given moment (Peng, 2013). Low back pain is a

significant problem in society. In the general population back pain is a common and costly problem. Research shows that 80% of the population will suffer from LBP at some time in their lives (Zhang et al., 2009). Low back pain has a lifetime prevalence of nearly 80%, and spinal disorders are the fourth most common primary diagnosis for office visits in the United States (Roger et al., 2015). The prevalence rate is higher among the females might be due to poorer physical fitness of them (Taechasubamorn et al., 2011). It is also costly, accounting for a large and increasing proportion of health care expenditures without evidence of corresponding improvements in outcomes (Martin et al., 2008).

In the United States it is estimated that seven million adults have activity limitations as a result of chronic low back pain (Jacobson et al., 2009). Literature showed that the prevalence of low back pain increases with age. The risk of developing LBP among the women increased up to 50-59 years because they are more active in this time and after 60 years the frequency of LBP gradually decreases (Urquhart et al., 2009). LBP is a ubiquitous health problem, representing one of the most frequent illnesses of mankind. It is often controversial, frustrating, and challenging for clinicians. Most persons will experience acute low back pain during their lifetime. The first episode usually occurs between 20 to 40 years of age. Pain can be moderate to severe and debilitating, causing anxiety. Many cases of acute LBP are self-limiting and resolve with little intervention. However, many patients with acute LBP go on to develop chronic LBP. Chronic LBP is the most common cause of disability among people younger than 45 years and the third most common cause of disability among people aged 45-64 years (Schumann, 2010).

Low back pain and lumbar sacral radicular pain have a large number of causes. They are intervertebral disc degeneration, disc herniation, and osteoarthritis of facet joints, fractures of pars interarticularis, spondylolisthesis, injury to ligaments, paravertebral and gluteal muscle trigger points and injury or inflammation of sacroiliac joints. In addition back pain can arise as a result of primary and metastatic malignant conditions of spine, osteoporotic vertebral fractures, inflammatory disorders of spine, genitourinary, gastrointestinal and gynaecological causes and these causes should not be missed in the diagnosis (Brukner & Khan., 2007). The most common causes of low back pain are injury or overuse of muscles, ligaments, and joints, pressure on nerve roots in the spinal canal, Spinal stenosis, Fractures of

the vertebrae (Martin et al., 2008). The relationship between potential mechanism of LBP and obesity remains controversial. Persistent obesity, especially abdominal obesity is associated with LBP in young women, after a research it was concluded that patients with a BMI less than 30 are at minimal risk; those with a BMI of 30 to 40 are at moderate risk, and those with a BMI greater than 40 are at high risk for developing LBP (Baumgarten et al., 2011). This problem becomes even more pronounced in case of postmenopausal women (Shiri et al., 2007). Posture: Physical exposures at work such as bending, twisting, manual material handling, and whole body vibrations are considered to be risk factors for LBP (Bunzli al., 2010). In most people, LBP is benign and represents a simple back sprain associated with a mechanical loading incident or a 'pain flare' associated with psychosocial or lifestyle stresses. On the initial visit, triage is required to eliminate the small possibility of serious or specific pathology (Haldeman et al., 2012).

It is often accompanied by sciatica, which is pain that involves the sciatic nerve and is felt in the lower back, the buttocks, and the backs of the thighs. Low back pain has several different possible causes: strain on the muscles of the lower back may be caused by obesity; pregnancy; or job-related stooping, bending, or other stressful postures. Low back pain is more precisely called lumbago or lumbosacral pain occurs below the 12th rib and above the gluteal folds (Sikiru & Hanifa, 2010). Although there are a large number of causes for low back pain, in the majority of cases of LBP the aetiology is unknown (Strong et al., 2013).

Lumbar disc herniation is an important cause of low back pain and lumber sacral radicular pain (Zhang et al., 2009). Low back pain correlates with physical inactivity such as time spent on hours watching TV or video (Skoffer et al., 2013). However, the link between spinal posture and LBP) is not fully understood (Mitchell et al., 2008). Strong associations were found between LBP and flexed and rotated positions of the lumbar spine (Heneweer et al., 2011). Recent research indicates that heredity may play a role in disc degeneration as well as herniation of intervertebral discs (Zhang et al., 2009). The risk of developing LBP among the women increased up to 50-59 years because they are more active in this time and after 60 years the frequency of LBP gradually decreases (Urquhart, et al., 2009).

Symptoms of low back pain depend on the cause. In case of back sprain or strain Muscle spasms, cramping, and stiffness, Pain in the back and buttocks. Certain movements make it worse, and resting makes it feel better. The worst pain usually lasts 48 to 72 hours and may be followed by days or weeks of less severe pain. In case of Nerve-root pressure if leg pain extends below the knee, it is more likely to be due to pressure on a nerve than to a muscle problem. Most commonly, it's a pain that starts in the buttock and travels down the back of the leg as far as the ankle or foot. In case of nerve-related problems, such as tingling, numbness, or weakness in one leg or in the foot, lower leg, or both legs. Tingling may begin in the buttock and extend to the ankle or foot. Weakness or numbness in both legs, and loss of bladder and/or bowel control, are symptoms of cauda equina syndrome, which requires immediate medical attention (Downie et al., 2013).

Diagnosis consists of physical examination and laboratory investigation. The physical examination includes observation and measurements, palpation for tenderness and joint alignment and check pulses in the legs, deep tendon reflex tests, sensation tests, movement tests, straight leg test, muscle strength tests (neurologic testing), general abdominal, pelvic, rectal, and leg exams (Dalichau et al., 2006). The lumbar spine corresponds to lower back consists of five vertebrae. These vertebrae's have heavy thick bodies to support the greater stress and weight as they serves as major load bearing portion of the vertebrae. There are two short stalks project posteriorly from the body and then fuse medially to form the neural arch. The vertebral foramen is located in the centre of the neural arch through which the spinal cord passes. A spinous process projects posteriorly from the posterior portion of the neural arch and transverse process projects laterally from each side of the neural arch (Gunstream, 2008). The spine is a three-joint complex at each level. This complex consists of one intervertebral disc and two facet joints. The two facet joints are plane type of synovial joints and the joint between the vertebral bodies is a symphyseal joint. The surfaces of the vertebral bodies are lined by thin layers of hyaline cartilage and between these layers the intervertebral disc is a thick plate of fibrocartilage that serves as shock absorber (Chaurasia, 2004). The disc is viscoelastic that have creep and relaxation behaviour. It also helps in stress distribution and protects the vertebrae from grinding against each other (Lee, 2006).

The management of LBP comprises a range of different intervention strategies including surgery, drug therapy, and non-medical interventions (Middelkoop et al., 2011). Sports activities such as swimming and soccer were associated with decreased prevalence of low back pain. According to studies done in Sri Lanka taking part in exercises such as walking and running 20 minutes/day more than three times a week had a significant protective effect on low back pain (Karunanayake et al., 2013). Spinal posture during activities of daily living is assessed in the management of LBP. Because low back pain is common, can lead to substantial disability, and can become chronic, proficiency in evaluation and management is important shown to prevent low back pain, regular physical activity has other proven health benefits. A systematic review found that a post treatment exercise program can prevent recurrence in patients with an episode of low back pain (Choi et al., 2010). Mechanical LBP is commonly treated conservatively with physical therapy (Kumar, 2011). LBP is a major health issue with significant socioeconomic implications in most Western countries. Many forms of treatment have been proposed and investigated in the past, with exercise being a commonly prescribed intervention. Within allied health, in particular physiotherapy, there has been a growing movement that recognizes the role of the McKenzie method in treating LBP (Dunsford et al., 2011). Physical fitness is important as the dimensions of aerobic fitness, muscle strength, muscle endurance, flexibility and balance. Isometric back extension endurance is one of the physical fitness parameters. Most of the studies have found that poor physical fitness is associated with LBP (Andersen, 2007). According to an Australian study the most commonly reported traumatic events included sporting injuries 26.5%, motor vehicle accidents 18% and work-related trauma 17.5% (Hoy et al., 2012).

Lumbar corset are used in the treatment of low-back pain patients, to prevent the onset of low-back pain primary prevention or to prevent recurrences of a low-back pain episode secondary prevention (Duijvenbode et al., 2011**).** Corset treatment for chronic low back pain improved low back pain and increased muscle endurance for a short period of time. Paravertebral muscle fatigue was not increased by long-term corset wearing for chronic low back pain, and weakening of the paravertebral muscles was not observed up to 6 months after the start of corset wearing (Sato et al., 2012). Lumbar corsets have been recommended for low back pain patients as a way

of stabilizing the lumbar region, facilitating flexion movements, and reducing pain.However, little is known about how these devices affect lumbar motion (Vogt et al., 2011).

The use of belts, corsets, or orthoses is frequently reported as an alternative therapeutic associated in LBP but without strong evidence. The benefits can be explained by some mechanical effects in regard with all the components of LBP: limitation of the back mobility and more specifically the limitation of the flexion in the subject daily activities. Plaster corset can be complementarily used in addition to the medical treatment to decrease the pain and functional disability and can help to reduce work stoppage (Zomalheto et al., 2015). Lumbar supports are frequently used in the management of low back pain and are also a common intervention in industry to prevent back injuries. However, at present, the putative mechanisms of action of a lumbar support remain a matter for debate (Dillingham, 2006). Lumbar supports are provided as treatment to people who have LBP with the purpose of making the impairment and disability vanish or decrease. Lumbar supports are provided as intervention for prevention with the purpose of preventing the onset of LBP primary prevention or of preventing recurrent LBP episodes secondary prevention. Although a large variety of preventive and therapeutic interventions are available for LBP, the efficacy of most of these interventions has not been demonstrated yet (Poppel et al.,2005). Nachemson (2008). reported the different desirable functions of a lumbar support to correct deformity, to limit spinal motion, to stabilize part of the spine, to reduce mechanical uploading, and to provide the miscellaneous effects of massage.heat, placebo. (Barron et al.,2007).Potential adverse effects of wearing a lumbar support that have been reported, are skin lesions, gastrointestinal disorders and muscle wasting, higher blood pressure and higher heart rates (McGill, 2005).

The growing popularity of lumbar supports has led to several studies investigating the preventive and therapeutic effects. These studies have already been summarized in several reviews, papers, and editorials on the effectiveness of lumbar supports for prevention and for treatment (Barron et al., 2007).Non-specific LBP is managed conservatively by physical therapy and in many cases by applying orthosis. A wide variety of orthotic designs, ranging from lumbosacral corsets to rigid thermoplastic thoracolumbosacral orthosis are used for controlling LBP (Gavin et al., 2007)

Prateepavanich et al (2001). showed a statistically significant improvement in walking distance (393.2±254.0m and 314.6±188.8m) and reduction of pain score in daily activities (4.7±1.4 and 5.9±1.0) with and without lumbosacral corset dressing respectively. So a lumbosacral corset can be used to improve walking distance and to reduce pain in daily activities . But it does not reduce the shift of the vertebra. It is a good aid during the painful periods but should be discontinued when the patients' complaints are reduced. (Kalichman &Hunter,2008). During back rehabilitation of postoperative disc hernia it is important to regain core stability first. The corset of the lumbar spine -formed by the abdominal and back muscles- has to be rebuild. Maintaining this corset is important during various movements, activities and several situations (Christin, 2009).

Cholewicki et al. (2010) stated that Abdominal belts and lumbar corset are designed to provide support to the lumbar spine. Abdominal belts are used in ergonomics to prevent low back injury, while orthoses are used in clinical settings for conservative and postsurgical management of low back pain (LBP). According to Sato et al. (2012) corset treatment for chronic low back pain improved low back pain and increased muscle endurance for a short period of time, and treatment effects could be obtained. Wearing a corset might be useful in the early stages of treatment for low back pain. However, during long-term corset treatment for chronic low back pain, neither further improvement of low back pain nor increase in muscle endurance was obtained. Lumbar corsets have been recommended for low back pain patients as a way of stabilizing the lumbar region, facilitating flexion movements, and reducing pain. However, little is known about how these devices affect lumbar motion and elastic lumbar supports have no significant effect on pelvic kinematics in the sagittal and transverse planes (Vogt et al., 2011).

The effects of lumbar corset on neuromuscular control of the trunk are not known. There is a concern that wearing LSC for a long period may adversely alter muscle control, making individuals more susceptible to injury if they discontinue wearing the LC. The purpose of this study was to document neuromuscular changes in healthy subjects during a 3-week period while they regularly wore a LC (Cholewicki et al., 2010). Hashimoto et al (2013). Stated that wearing a corset can restrict the hyperextension of the lumbar spine, which may be a pain generating maneuver

associated with spondylolysis or facet syndrome. Second, wearing an HC can reduce the magnitude of lumbar rotation and increase hip rotation, changes that may benefit patients with conditions of lumbar disc degeneration. Third, wearing corsets may prevent the development of LBP in golfers. Fourth, providing golfers with this type of kinesiological information may increase their awareness of the effect of lumbar orthosis on their swing.

There are two different types of lumbar corset, a flexible corset and a semi-rigid corset, for patients with chronic (Gibson, 2007). There is limited evidence that a flexible corset is not more effective than a semi-rigid corset for short-term pain reduction and improved functional status for patients with chronic LBP. There is limited evidence that a lumbar corset with back support is more effective for short-term pain reduction and improved back-specific functional status than a lumbar support alone for patients with chronic LBP (Gibson, 2007).

There is moderate evidence that lumbar supports do not prevent short- or long-term LBP or sick leave more effectively than no intervention, and that there is moderate evidence that lumbar supports are not more effective than training in lifting techniques in preventing long-term LBP and sick leave (Roelofs, 2007).

CHAPTER-III: METHODOLOGY

3.1 Study design

The aim of this study was to find out the prevalence of using lumber corset in LBP patients. 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. Prevalence equals the number of cases in a population at a given point in time. All the measurements on each person were made at one point in time. The data was collected all at the same time or within a short time frame. A cross-sectional design provides a snapshot of the variables included in the study, at one particular point in time (Fraenkel, 2000).

3.2 Study area

Data was collected from the Physiotherapy Musculoskeletal Unit of the Centre for the Rehabilitation of the Paralyzed (CRP), Savar. At first researcher developed a standard questionnaire and then select the LBP patients as sample for data collection. Because CRP, savar had a lot of LBP patients who were visited from different parts of whole Bangladesh.

3.3 Study population

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 the patients of Bangladesh who will fulfil the inclusion and exclusion criteria are the population of these study. But it was not possible to study the total population within the time of this study, so the investigator took only 50 patients as sample who were selected in this study, the researcher choose the patients in Centre for the rehabilitation of the paralyzed (CRP) as population to carry out this study according to the inclusion and exclusion criteria

3.4 Sampling technique

Sampling refers to the process of selecting the subjects/individual. Purposive sampling method was selected to draw out the sample from the population.

3.5 Sample size

Sampling procedure for cross sectional study done by following equation

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

Here,

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

P= 0.68 (Here P=Prevalence and P=68%)

q= 1-p

=1-0.68

=0.32

The total calculated sample were 384 but due to time limitation 50 sample were taken for this study.

3.6 Inclusion criteria

1. All patients attending at CRP Musculoskeletal unite with having low back pain, selected to explore the prevalence of using lumbar corset in LBP.
2. Both male and female patients with any age group were selected. .
3. Voluntary participations.
4. First conducting patients
5. Age between 20-60 years.

3.7 Exclusion criteria

1. Female who were pregnant because they are the venerable group.
2. Subjects who had recent major accident or major surgery in any part of the body which could produce pain as acute inflammatory reaction.
3. Subject who had psychiatric problem who may give irrelevant information which will not helpful for study.
4. Patients who were not-interested.

3.8 Data collection tools

Were data collection tools are Questionnaire, Pen, Paper, File and VAS-Scale (visual analogue scale)

3.9 Data collection procedure

Data was collected through the face to face interview with participants using EQ-5D-3L questionnaire

3.10 Data analysis

Data were analysed in Microsoft office Excel 2010 using SPSS 16 version software program.

3.11. Ethical consideration

The aims and objectives of this study were informed to the subjects verbally. The subjects had the rights to withdraw themselves from the research at any times. Consent form was given to the subject and explained them before conducting research with the respondents. For this study participants were selected purposively. In this study according to the inclusion and exclusion criteria patients were informed the study objective properly by using consent form. Participant and investigator signed in willingly into the consent form. By the consent form the participants were informed that they were completely free to decline answering any question during data collection and also free to withdraw their agreement and participation any time from this study. The participants were informed clearly that the confidentiality should be maintained strictly and information might be published in any presentations or writing but they will not be identified. And it is also ensure that the investigator will be available at any time to answer any additional questions in regard to the study.

A research proposal was submitted to IRB of Bangladesh Health Professions Institute for being approval. At first was applying for official permission for the

study from the head of the Physiotherapy Department of CRP. Then the head of the Physiotherapy Department of CRP permitted to collect data at musculoskeletal department of CRP, Savar. BMRC and WHO guideline were followed.

The IRB checked the proposal and granted the proposal then the investigator started the study. Permission was also taken from all the participants in the form of written consent during data collection. During the course of the study, investigator gave the consent form to the interested participant. They were informed that their participation was fully voluntary and they had the right to withdraw or discontinue from this study at any time without any hesitation or risk. Participants were also informed that confidentiality would be maintained and client codes were used to keep clients identity invisible. They were assured that taking part in this study would not cause any harm to them but the result of the study would be beneficial for them.

CHAPTER – IV: RESULTS

The aim of this study was to explore the prevalence of using lumbar corset in LBP patients. Data were numerically coded and analysis the data by using an SPSS 16.0 version software program and the result captured in Microsoft Excel. The descriptive data was collected from the CRP MS unit and calculated as percentages and presented by using bar and pie chart and in table, for this study 50 persons who have visit to CRP to treat their back pain were taken as a sample to explore the prevalence of using lumbar corset in LBP patients.

4.1 Socio demographical information

4.1.1 Age range

The study was conducted on 50 participants of having low back pain. In the study the minimum age of a participant is 20 & maximum age of a participant is 60. Their mean is 2.58 median is 2.5 and standard deviation is 985. 6 participants in between 20-30 years 12%, 19 participants in between 31-40 years 38%,15 participants in between 41-50 years 30%,10 participants in between 51-60 years 20% (figure :1).

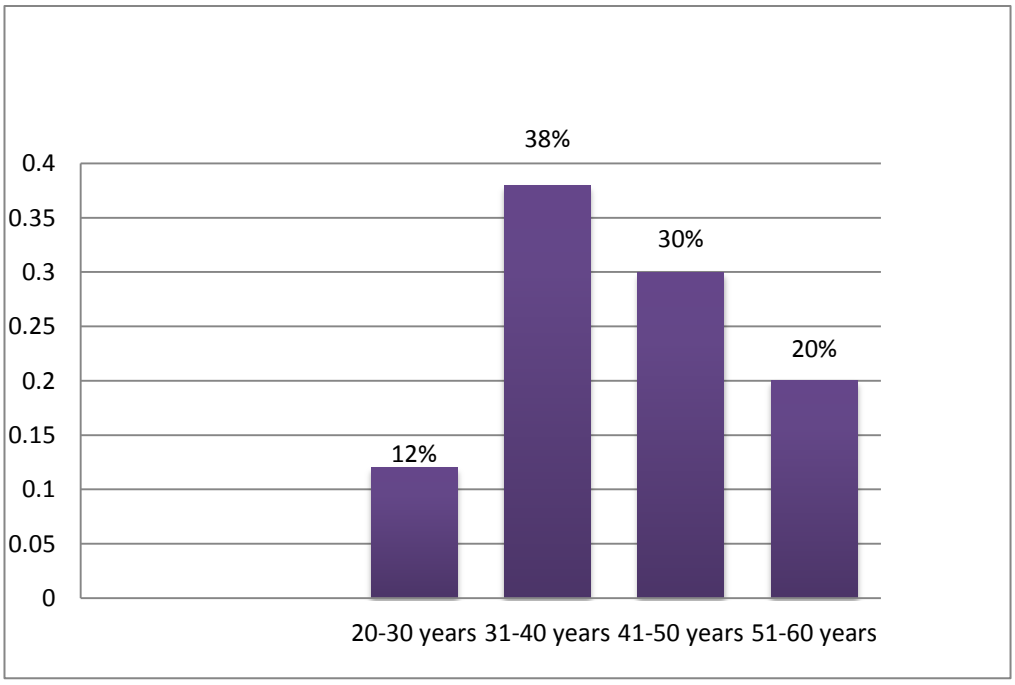


Figure-1: **Age range**

4.1.2 Sex

In my study female are more than male. Among the 50 participants 42% (21) were male and 58% (29) were female (Figure: 2).

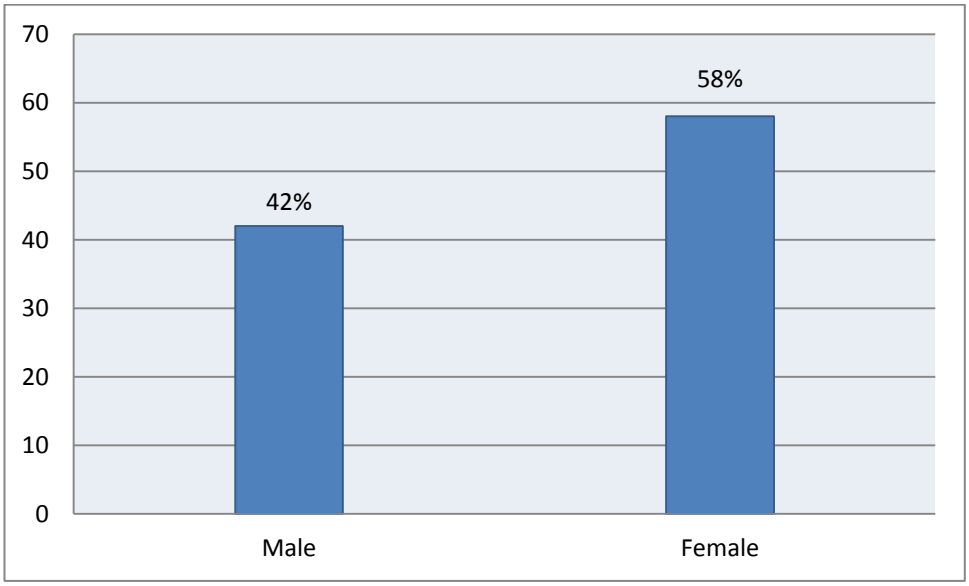


Figure-2: Sex of the participant

4.1.3 Marital status

In these study there were 50 participants and among them 86% (n=43) participants were married, 14% (n=7) participants were single (Figure: 3).

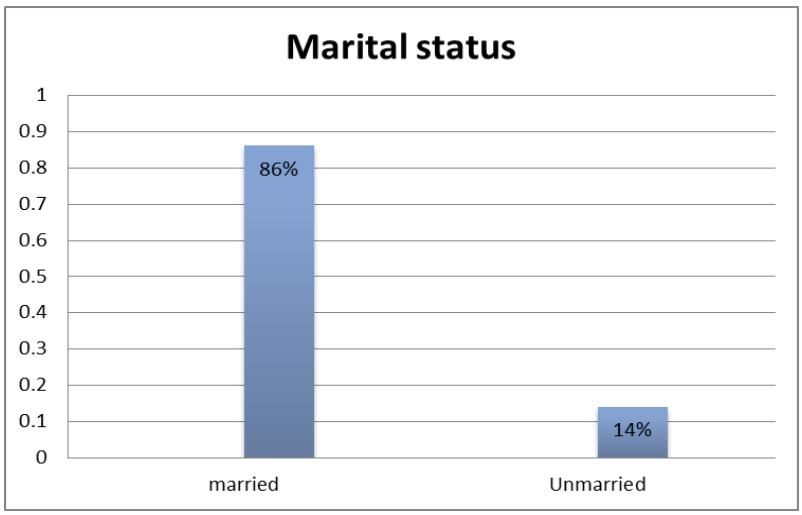


Figure-3: Marital Status of the participants

4.1.4 Education

Among the 50 participants 16% (n=9) participants were no formal schooling, 6% (n=3) participants were less than primary school, 36% (n=18) participants primary passed, 16% (n=8) participants were SSC completed, 16% (n=8) participants completed H.S.C level, 8% (n=4) participants have graduate completed (Figure: 4).

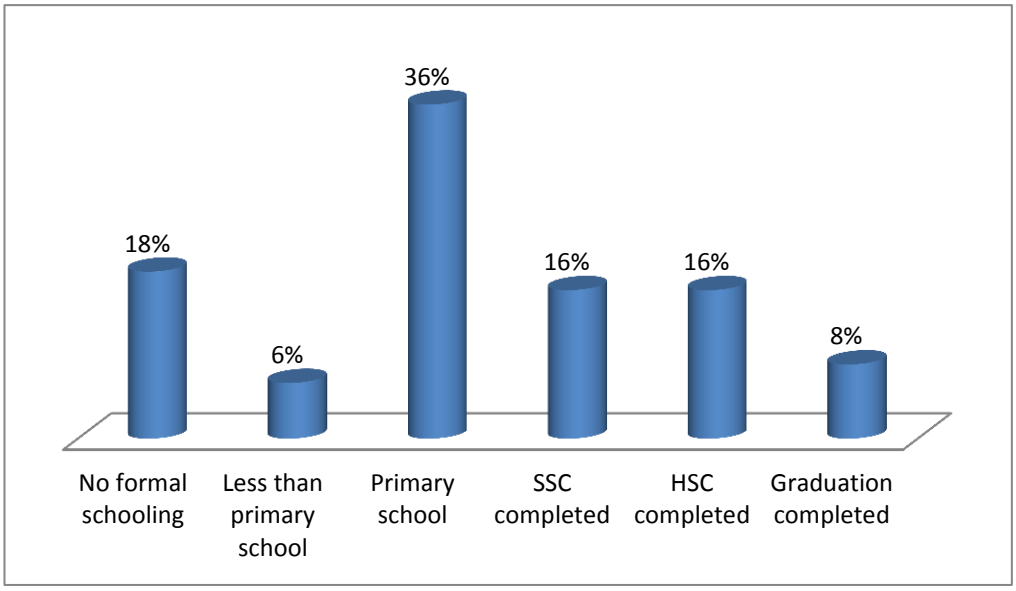


Figure -4: Educational level of the participants

4.2 Low back pain related information

4.2.1 Pain severity

Among the participants who suffered from LBP, the severity of pain in VAS scale was in between 1-3 (mild pain) was 14% (n=7), 4-6 (moderate) was 54.% (n=27) and 7-10 (severe) was 32% (n=16) of affected participant by LBP. The majority of participants who suffer from LBP during the study severity of pain were moderate in VAS scale (Figure: 5).

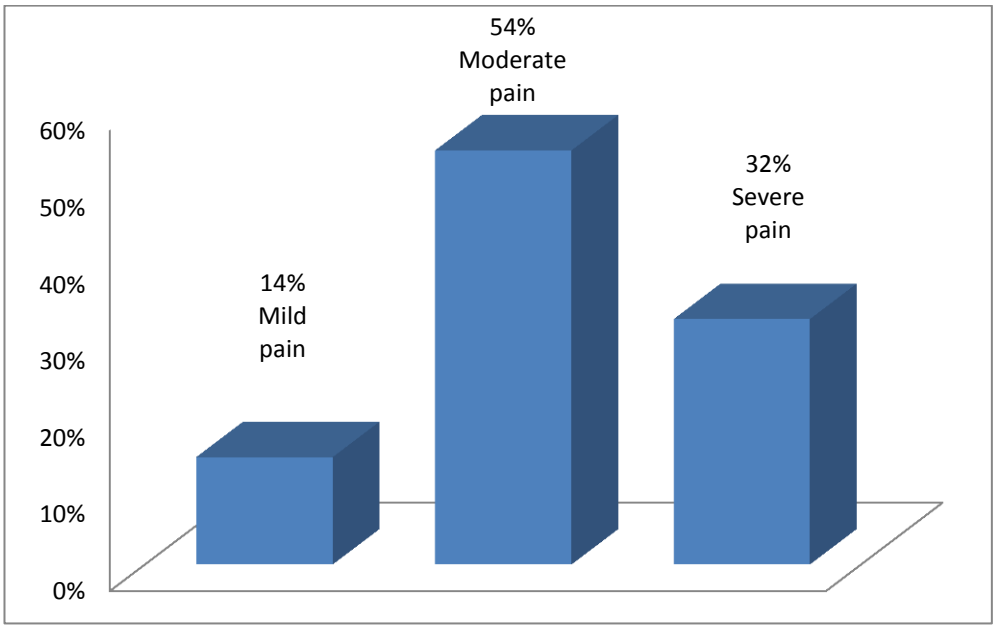


Figure -5: Severity of pain

4.2.2 Duration of pain

10% of participants (n=5) have pain less than 1 months, 12% of participant(n=6) have pain with 1-6 months, 16% of participant(n=8) have pain in 7-12 months, 44% of participant(n=22) have pain more than 2-3 years, and 18% of participant(n=9) have pain more than 3years (Figure: 6).

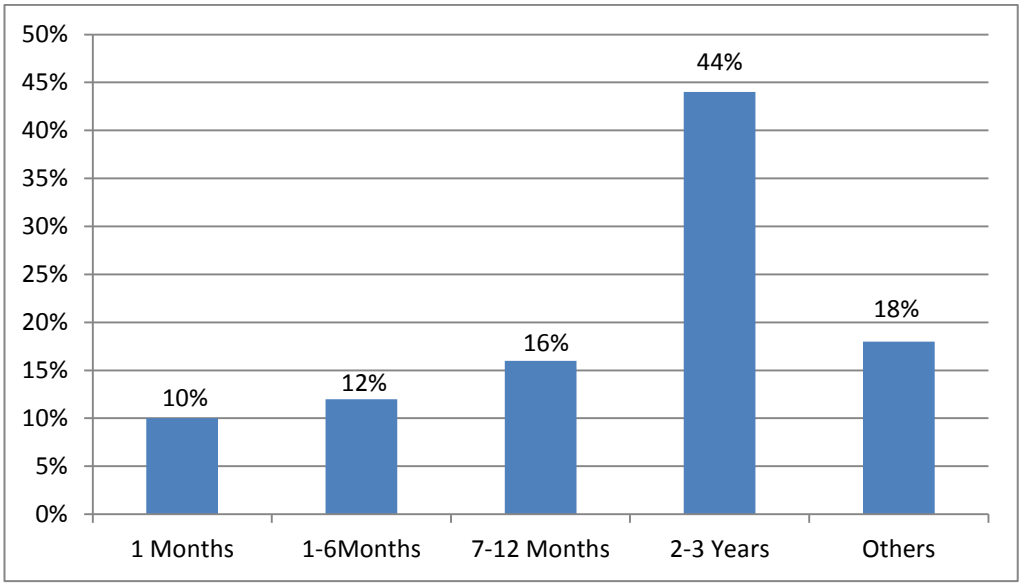


Figure-6: Duration of pain

4.2.3 Pain area

The study found who had been suffering from LBP, the area of the pain was central back region 28% (n=14), Both buttock 2% (n=1) ,radiated to the above knee 20% (n=10) and radiated to the below knee 50% (n=25) in the affected group. The pain radiate below knee is more than others (Figure: 7).

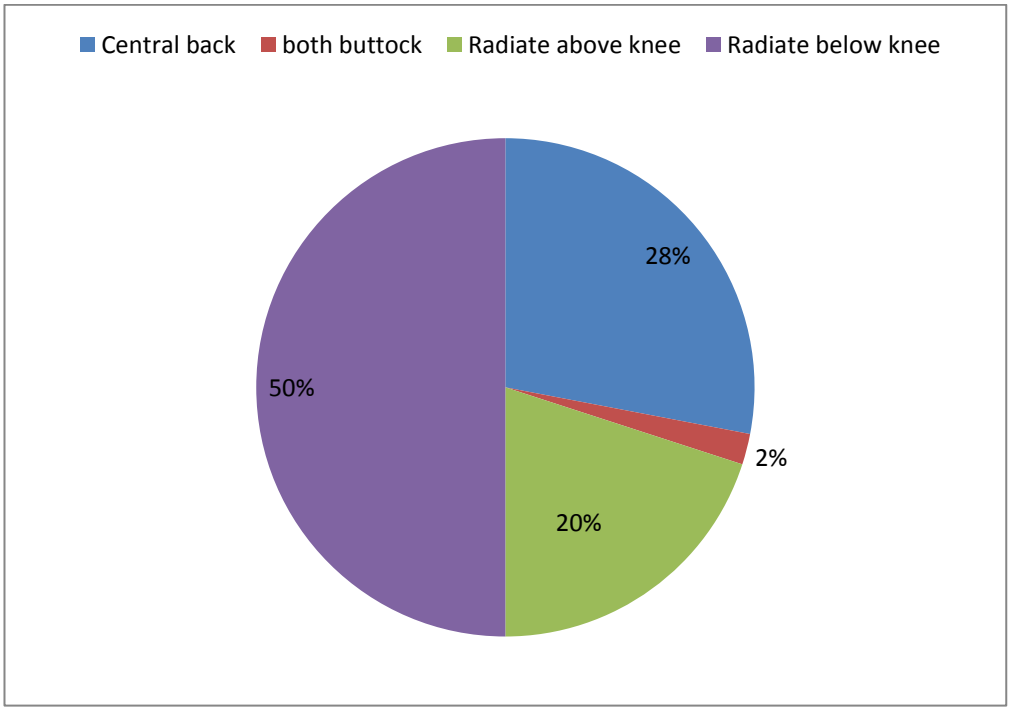


Figure -7: Pain area

4.3 Lumbar corset related information

4.3.1 Prevalence of using lumber corset

In this study among all of the (50) participants 46% (n=23) participants use lumbar corset for LBP and 54% (n=27) participants had not use lumbar corset for LBP (Figure: 8).

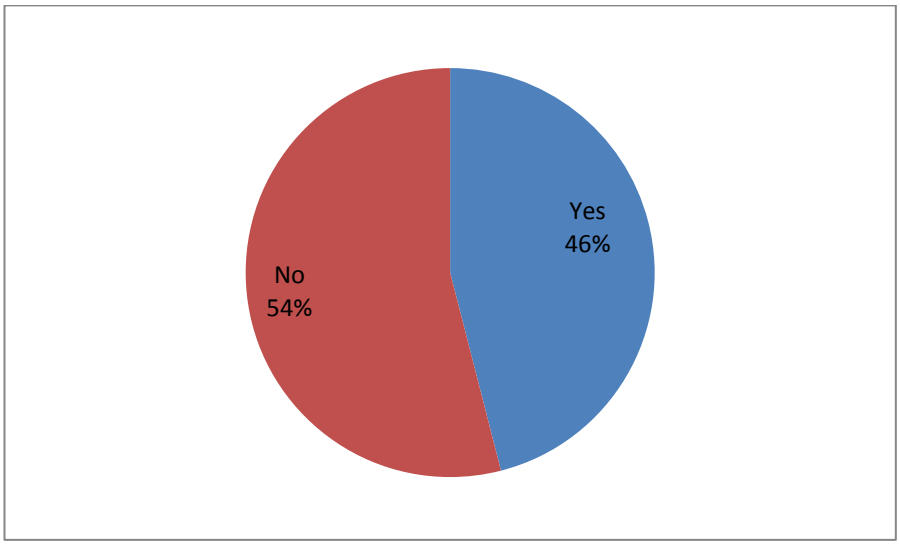


Figure -8: Prevalence of using lumber corset

4.3.2 Pain before using lumber corset

Among 23 participants who are using lumbar corset, they have different experience of back pain before using corset. 8.7% (n=2) have mild pain (1-3) in VAS scale.60.9% total (n=14) have experience of moderate pain (4-6) and 30.4% (n=7) experiences severe pain (7-10) in VAS scale (Figure: 9).

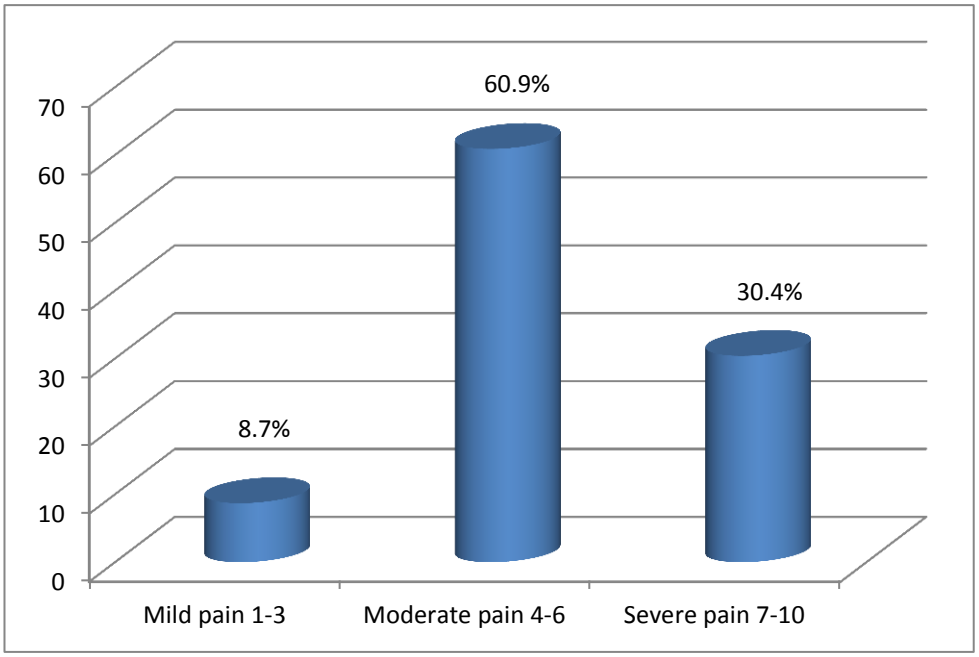


Figure-9: Pain severity before using lumber corset

4.3.3 Pain after using lumber corset

Among 23 participants who are using lumbar corset, they have different experience of back pain after using corset. 13 % (n=3) have mild pain(1-3) in VAS scale,65.2% total (n=15) have experience of moderate pain (4-6) and 21.7% (n=5) experiences severe pain (7-10) in VAS scale (Figure: 10).

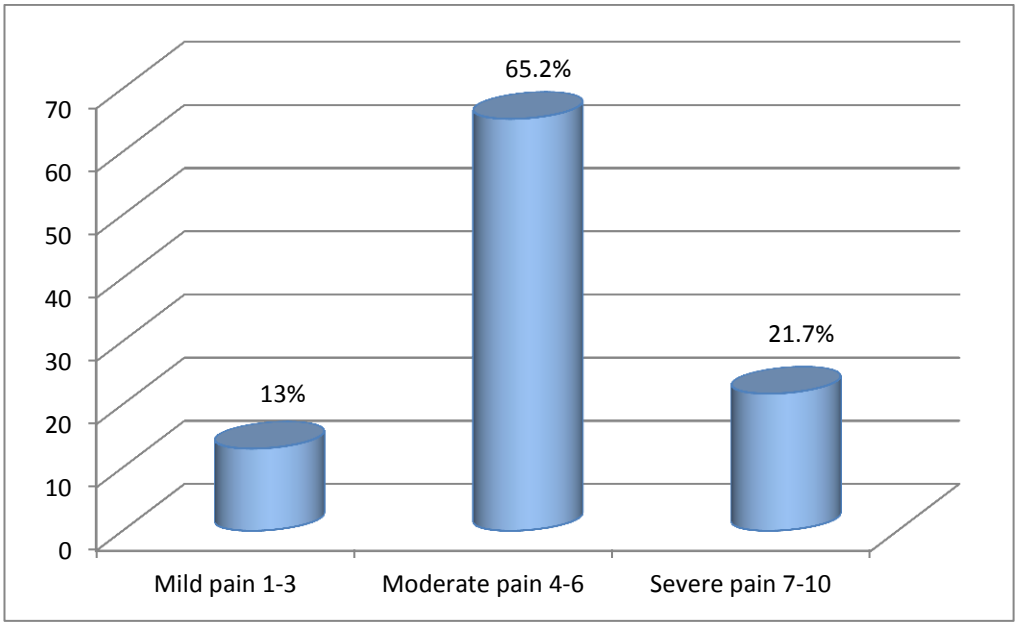


Figure 10: Pain severity after using lumber corset

4.3.4 Reduction of pain in journey

In this study 60.9% participants have argued that the corset is helpful to reduce pain in the journey.it helps to prevent excessive lumber motion. 39.1% patient stated that the lumber corset have no effect to reduce pain in journey (figure: 11).

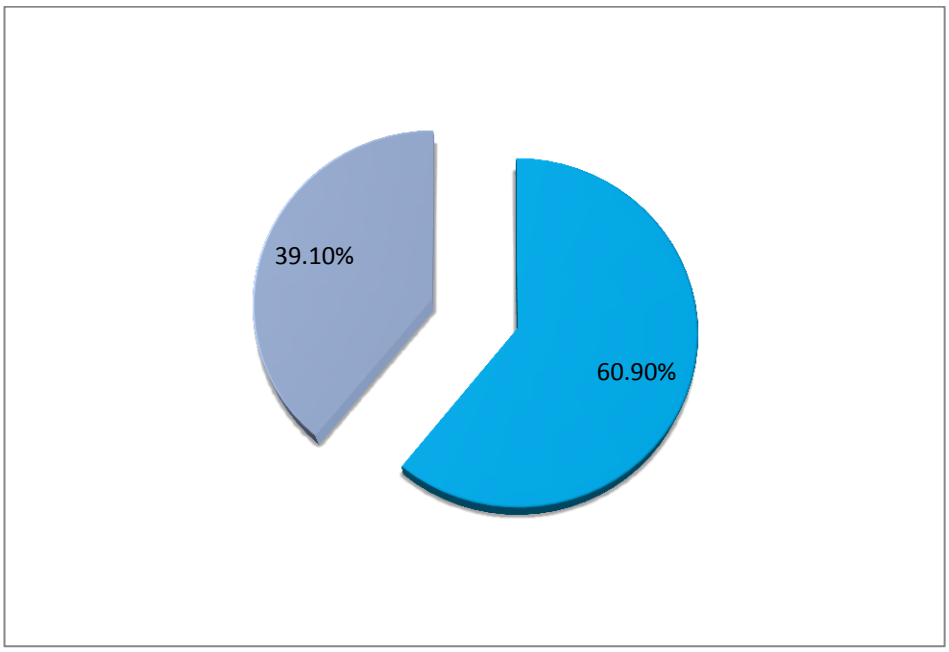


Figure 11: Reduction of pain in journey

4.3.5 Satisfaction level of using corset

The patient who are using lumber corset among them 26.1% are (n=6) are not satisfied, 47.8% patients (n=11) are minimum satisfied 21.7% (n=5) are moderate satisfied and only 4.3% (n=1) are highly satisfied (Figure: 12).

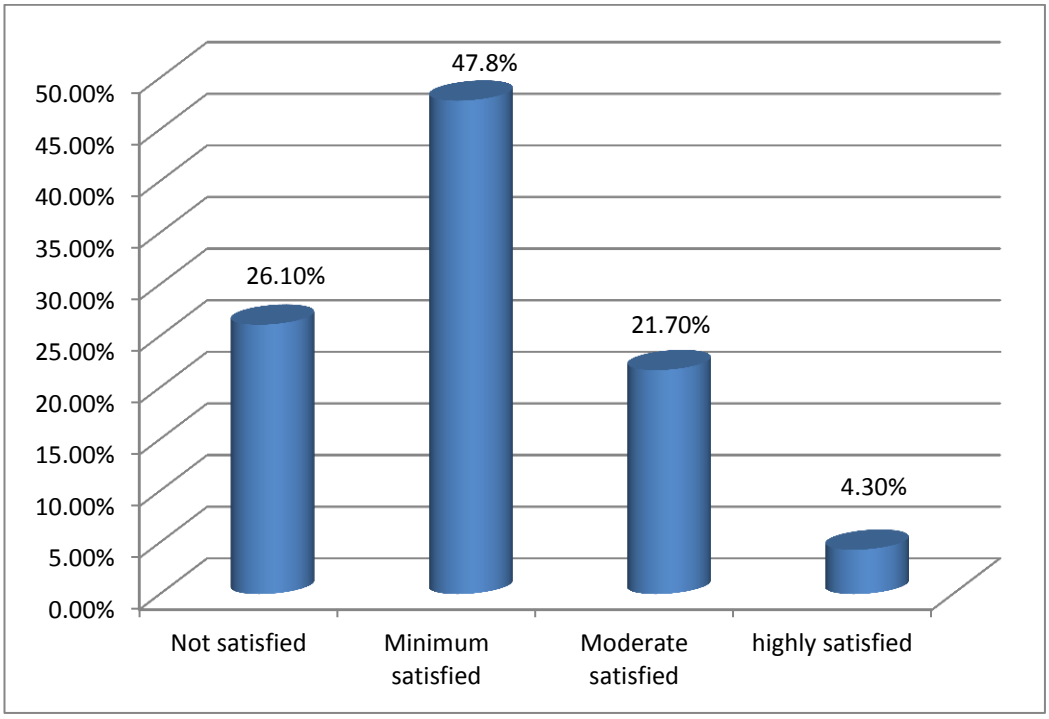


Figure12: Satisfaction level of using corset

variable	Using corset	Not using corset	OR	95% CI	
				Lower	Upper
Sex					
Male	11	10	1.558	.503	4.803
Female	12	17			
Age					
30 years or less	4	2	2.632	.435	4.907
More than 30years	19	25			

Table-1: Lumbar corset related information

Sex

From the table 1 it is observed that the total participants of this study were 50 where 23were using lumbar corset and 27 were not using corset, among them had 11 were male and 12 were female in the lumbar corset using group. On the other hand 10 participants were male and 17 were female in the not using lumbar corset group. Calculated odds ratio for the sex of the participants is 1.558 (Table-1) which means there was no association between sex of the participants ,so using lumbar corset was not significant and 95% confidence interval (CI) was .503 and 4.803

Age

From the table 1 it is observed that the total participants of this study were 50 where 23were using lumbar corset and 27 were not using corset, among them 4 were 30years or less and 19 were 30 years more in the lumbar corset using group. On the other hand 2 participants were 30years or less and 25 were 30 years more in the not using lumbar corset group. Calculated odds ratio for the age of the participants is 2.632 (Table-1) which means the association between age group was not significant for using lumbar corset and 95% CI was .435and 4.907

variable	Using corset	Not using corset	OR	95% CI	
				Lower	Upper
Use corset in journey					
Male	8	3	.242	.021	2.780
Female	11	1			
Pain reduce in journey			.857	.164	4.467
Male	**6**	**5**			
Female	7	**5**			

Table-2: Participants who using lumbar corset

Use corset in journey

From the table 2 it is observed that the total participants of this study who had been using corset were 23 where 19 were using lumbar corset during journey and 4 were not using corset, among the 19 participant 8 were male and 11 were female in the lumbar corset using group. On the other hand 3 participants were male and 1 was female in the not using lumbar corset group. Calculated odds ratio for the using corset in journey was .242 (Table-2) which means there was no association between sex of the participants and using corset in journey, so using lumbar corset was not significant and 95% confidence interval (CI) was **.**021and 2.780.

Pain reduce in journey

From the table 2 it is observed that the total participants of this study who had been using corset were 23 where 13 had reduced pain during using lumbar corset in journey and 10 participants had not reduce pain during journey , among the 13 participant 6 were male and 7 were female in the lumbar corset using group. On the other hand 5 participants were male and 5 were female in the not using lumbar

corset group. Calculated odds ratio for reducing pain in journey was .857 (Table-2) which means there was no association between sex of the participants and pain reducing in journey, 95% confidence interval (CI) was .164 and 4.467

variable	Not satisfied	Mild/moderate/highly satisfied	OR	95% CI	
				Lower	Upper
Satisfaction level					
Male	3	8	1.125	.175	7.243
Female	3	9			

Table-3: Satisfaction level of using corset

Satisfaction level

From the table 3 it is observed that the total participants of this study who had been using corset were 23 in number where 6 participants were not satisfied and 17 participants were satisfied. 6 participants who were not satisfied , among them 6 participant 3 were male and 3 were female in the not satisfied group. On the other hand 17 participants, 8 were male and 9 were female in the satisfied group. Calculated odds ratio for satisfaction level was 1.125 (Table-3) which means there was no association between sex of the participants and satisfaction of using corset, 95% confidence interval (CI) was .175 and 7.243

CHAPTER V DISCUSSION

A cross sectional study was used to find out the prevalence of using lumbar corset in LBP patients. There were 50 participants of both male and female to find out the prevalence of using corset in LBP. The result of this study showed that 46% patient uses lumbar corset for LBP during the course of the study.

Male female ratio of low back pain is 42% and 58%.female are more affected in low back pain during my study.

In this study it was found that the persons who were suffering from LBP and using LC (n =23)there almost 47.82 % were male and about 52.18 % were female participants. And female participant are more in number than the male.

According to Ullah et al. (2006) sex distribution of patients with LBP was male 66% and female 34%. In Iranian population prevalence of LBP was male 18.3% and female 37.5% (Biglarian et al., 2012).

In this study it was found that among participants who were suffering from LBP the age distribution of them were 20- 30 aged were 12%, 31-40 aged were 38%, 41-50 aged were 30 % and 51- 65 aged were 20%. Sipko et al. (2006) found that the persons who suffer from LBP there were 34.62% in 21-30 aged, 34.83% were in 31-40 aged, 10.79% were 41- 50 aged and 11.44% participants were 51-60 age group.

(Bindra et al., 2013) state that the prevalence of LBP has been found to increase with age and to be more common among females. Low socioeconomic status and poor education have been found to be associated with LBP. Present episode of LBP was found to be associated with previous history of LBP. Heavy physical work in terms of lifting heavy loads, repetitive job, prolonged static posture and awkward posture have been found to be some of the risk factors of LBP. Anxiety, depression, job dissatisfaction, lack of job control and mental stress has been found to be some of the psychosocial factors related to LBP. The length of occupational exposure in terms of prolonged working hours and number of years in to present occupation have been found to be associated with LBP

In this study it was found that the participants who were suffering from LBP most of them were married 86%, and 14% were un married. Widow, divorced and single were absent.

In this study the investigator found that the persons with suffering from LBP majority of participants have no formal scholling18%, 6% participants completed less than primary level ,16% affected participants completed their SSC ,16% complete HSC level, and only 8% of participant have graduated.

There also show that among the lumbar corset users 4.34% were graduate & less than primary school level,30.40% are HSC completed, 13% are SSC completed,34.78% have completed their primary level, and 13% of LC users have no formal schooling.

Another study found in Iran that showed that among the participant 33.9% completed their basic educational level, 20.2% completed moderate educational level and 15% completed their higher education. Where most affected group completed their basic educational level (Biglarian et al., 2012)

In my study the participants who had been using lumber corset among them 13% had mild pain in VAS scale (1-3), 52% had moderate pain(4-6),and 45% had severe pain in VAS scale (7-10).

Who had been suffering from LBP and using lumber corset the area of the pain was central back region 26% , the person who had pain in both buttock 0%use of corset ,radiated above knee 26% and radiated to the below knee 48% . the rate of using lumbar corset is higher to the participant who had pain in back and radiate to below knee.

Who were using lumbar corset, they have different experience of back pain before using corset. 8.7% have mild pain (1-3) in VAS scale.60.9% total have experience of moderate pain (4-6) and 30.4% experiences severe pain (7-10) in VAS scale.

After using corset, Among the participants 13 % have mild pain (1-3) in VAS scale,65.2% total (n=15) have experience of moderate pain (4-6) and 21.7% experiences severe pain (7-10) in VAS scale.

Kumar et al. (2011) stated that, a large majority of patients in this study showed improved pain control (visual analogue mean score from 8.30 to 4.90) as well as an improvement in functional symptoms . Patients evaluations of the effectiveness of corsets had previously been sought. One study after a postal questionnaire- based follow-up in Helsinki reported that 37% of patients rated subjective relief from the corset as excellent or good and 49% found slight relief. (Alaranta &Hurry., 2007). It also emphasised the importance of sufficient time and adequate information to increase the effectiveness of wearing the corsets. Furthermore, traditional care plus graded activity progress with behaviour therapy under the guidance of a physical therapist have shown improvements that cannot be explained by the time recovery effect.(Lindstorm et al.,2013)

The patient who are using lumber corset among them satisfactions level is frustrating, 26.1% were not satisfied,47.8% patients were minimum satisfied ,21.7% (n=5) were moderate satisfied and only 4.3% (n=1) are highly satisfied.

Limitation of the study

First of all, time of the study was very short which had a great deal of impact on the study. If enough time was available knowledge on the thesis could be extended. Though the expected sample size was 354 for this study but due to time limitation researcher could manage just 50 samples which is very small to generalize the result for the wider population of LBP those who using lumber corset. There are a few literatures about lumbar corset among LBP in the perspective of Bangladesh so it is difficult to compare the study with the other research. The data only collected from CRP for a short period of time which affects the result of the study to generalize for wider population

CHAPTER VI CONCLUSSION AND RECOMMENDATION

6.1 Conclusion

It is important to develop research based evidence of physiotherapy practice in this area. Physiotherapist's practice which is evidence based in all aspect of health care. There are few studies on lumbar corset . These cannot cover all aspect of the vast area. So the next generation of physiotherapy members should continue study regarding this area, this may involve-use of large sample size and participants form different hospital in Bangladesh.

LBP has great impact causing severe long term physical disability and give rise to huge costs for the society. Literature showed that more than one-third of disability is caused due to low back problems. Most of the study population use various types of treatment for reducing LBP. 46% patients use lumber support for reducing LBP. Among them some of the population use it by professionals prescription and some of the population use it without prescription.

The result of this study showed that the prevalence of using lumbar corset for low back pain is 46% among the patients attend at musculoskeletal unite CRP, savar,Dhaka, Bangladesh.

Lumbar corset can be complementarily used in addition to the medical treatment to decrease the pain and functional disability and can help to reduce work stoppage.

This study reports that there are not more significant improvement of the functional status and reduction in medication consumption on using a lumbar corset as a complementary treatment for acute low back pain. The Lumbar corset does not cost many.

6.2 Recommendations

The aim of the study was to find out the prevalence of of using lumbar corset in LBP persons. However, the study had some limitations it some further steps were identified that might be taken for the better accomplishment of further study. 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 short, so in future wider time would be taken for conducting the study.

Investigator use only 50 participants as the sample of this study, in future the sample size would be more.

In this study, the investigator took the sample from CRP musculoskeletal unit, it was small area to take available sample. So for further study investigator strongly recommended to include the person with overweight and obese person from the community or all over the Bangladesh to ensure the generalizability of this study.

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APPENDIX

সম্মতিপত্র

(অংশ গ্রহণকারীকে পড়ে শোনাতে হবে)

আসসালামুআলাইকুম,

আমার নাম ইমতিয়াজ আহমেদ,আমি এই গবেষণা প্রকল্পটি বাংলাদেশ হেলথ প্রফেশনস ইন্সিটিউট (বি এইচ পি আই) এ পরিচালনা করছি যা আমার ৪র্থ বর্ষ বি এস সি কোর্সের অধিভুক্ত। আমার গবেষনার শিরোনাম "কোমর ব্যাথা রোগীদের মধ্যে লাম্বার করসেট ব্যাবহারের প্রকপ"।আমি এ ক্ষেত্রে আপনাকে কিছু ব্যাক্তিগত এবং আনুসঙ্গিক প্রশ্ন করতে চাচ্ছি।এতে আনুমানিক ১০ মিনিট সময় নিবো। আমি আপনাকে অনুগত করছি যে,এটা আমার অধ্যয়নের অংশ এবং এটা অন্ন কোন উদ্দেশ্যে ব্যাবহ্রিত হবে না। গবেষক সরাসরি এই অধ্যয়নের সাথে অন্তর্ভুক্ত নয়। তাই এই গবেষণায় আপনার অংশগ্রহন বর্তমান এবং ভবিষ্যৎ চিকিৎসায় কোন প্রভাব ফেলবে না। আপনি যে সব তথ্য দিবেন তার গোপনীয়তা বজায় রাখা হবে এবং আপনার প্রতিবেদনের ঘটনা প্রবাহে এটা নিশ্চিত করা হবে যে এই তথ্যের উৎস অপ্রকাশিত থাকবে। এই অধ্যয়নে আপনার অংশগ্রহন স্বেচ্ছাপ্রণদিত এবং আপনি যে কোন সময় এই অধ্যয়ন থেকে কোন নেতিবাচক ফলাফল ছারাই নিজেকে প্রত্যাহার করতে পারবেন। এছাড়াও কোন নির্দিষ্ট প্রশ্ন অপছন্দ হলে উত্তর না দেওয়ার এবং সাক্ষাতকারের সময় কোন উত্তর না দেওয়ার অধিকারও আপনার আছে।

এই অধ্যয়দ্ধয়নে অংসগ্রহণকারী হিসেবে যদি আপনার কোন প্রশ্ন থাকে তাহলে আপনি আমাকে অথবা এহসানুর রহমান , সহকারী অধ্যাপক ,ফিজিওথেরাপি বিভাগ, সিআরপি ,সাভার ,ঢাকা-১৩৪৩ তে যোগাযোগ করতে পারেন।

সাক্ষাৎকার শুরু করার আগে আপনার কি কোন প্রশ্ন আছে?

আমি আপনার অনুমুতি নিয়ে এই সাক্ষাৎকার শুরু করতে যাচ্ছি।

☐ হ্যাঁ

☐ না

১। অংশগ্রহণকারীর স্বাক্ষর এবং তারিখ .....

২। সাক্ষাতগ্রহণকারীর স্বাক্ষর এবং তারিখ .....

৩। প্রত্যক্ষদর্শীর স্বাক্ষর এবং তারিখ .....

CONSENT FORM

(Please read out to the participants)

Assalamualaikum, my name is Imtiaze Ahmed, I am conducting this study for a B.sc in Physiotherapy project, and my study dissertation titled is 'prevalence of using lumbar corset in low back pain patients' under Bangladesh Health Professions Institute (BHPI), University of Dhaka. I would like to know about some personal and other related information regarding LBP. You will perform some tasks which are mention in this form. This will take approximately 10 minutes.

I would like to inform you that this is a purely academic study and will not be used for any other purpose. The researcher is not directly related with this musculoskeletal area, so your participation in the research will have no impact on your present or future treatment in this area (musculoskeletal unit). All information provided by you will be treated as confidential and in the event of any report or publication 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 me and/or Ehsanur Rahman, Assistant professor, department of physiotherapy, CRP, Savar, Dhaka.

Do you have any questions before I start?

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

Yes ☐

No ☐

Signature of the Participant _____ Date:

Signature of the Interviewer _____

Signature of the witness _____

প্রশ্নাবলী

শিরোনাম: লো ব্যাক পেইন রোগীদের মধ্যে লাম্বার করসেট ব্যাবহারের প্রকোপ।

অংশ ১- : ব্যক্তিগত বিবরণ

১.১. অংশগ্রহণকারী নাম কোড নাম্বারঃ

১.২. ঠিকানা:

গ্রাম / গৃহ কোন ....

ডাক ঘর .....

থানা .....

জেলা .....

১.৪. যোগাযোগের নম্বর:

১.৫. সাক্ষাৎকারের তারিখ: দিন /মাস / বছর .....

অংশ- ২: আর্থ-সামাজিক তথ্য

২.১	বয়স	১ = (বছরে): ..... বছর
২.২	লিঙ্গ:	১ = পুরুষ ২ = মহিলা
২.৩	শারীরিক ওজন	..... কেজি
২.৪	শরীরের ধরন	১ = পাতলা ২ =মধ্যম

		৩= ওজন ওভার ৪ = মোটা
২.৫	বৈবাহিক অবস্থা	১= বিবাহিত ২= অবিবাহিত ৩ = তালাকপ্রাপ্তা ৪= পৃথক ৫ = বিধবা ৬ = বিপত্নীক
২.৬	শিক্ষাগত যোগ্যতা	১= প্রথাগত শিক্ষা ২= প্রাথমিক বিদ্যালয়ের কম ৩= প্রাথমিক সমাপ্ত ৪ = এসএসসি সমাপ্ত ৫= উচ্চ মাধ্যমিক সম্পন্ন ৬= গ্রাজুয়েট সম্পূর্ণ ৭ = স্নাতকোত্তর
২.৭	পেশা	১= কৃষক ২= দিনমজুর ৩= চাকরি ৪ = গার্মেন্টস / কারখানার কর্ম ৫ = ড্রাইভার ৬ = রিকশাচালক
২.৮	গড় মাসিক আয়	.....টাকা

অংশ- ৩ : লো ব্যাক পেইন সম্পর্কিত তথ্য

(রেকর্ড / যত্ন প্রদানকারী / ক্লিনিক্যাল পরীক্ষা থেকে সংগ্রহ করা)

নাম্বার	প্রশ্ন	প্রত্যুত্তর / উত্তর
৩.১	আপনি কি আপনার কোমর ব্যাথা মনে করেন?	১= হ্যাঁ ২=না
৩.২	ভাস স্কেলে আপনার ব্যথার তীব্রতা কত?	০ ১০ ১ = ১ -৩(অল্প ব্যাথা) ২ = ৪-৬ (মাধ্যম ব্যথা) ৩ = ৭-১০ (তীব্র ব্যথা)
৩.৩	ব্যাথার সঠিক এলাকা	১ = পিছনের কেন্দ্রীয় অঞ্চলে ২ = উভয় পাছা ৩= উপরের হাঁটুতে বিচ্ছুরিত ৪= নীচের হাঁটুতে বিচ্ছুরিত ৫ = প্রযোজ্য নয়
৩.৪	ব্যথার স্থিতিকাল	১ = <১মাস ২ = ২ - ৬মাস ৩ = ৭ -১২ মাস ৪= ২ ≥৩ বছর ৫= প্রযোজ্য নয়
৩.৫	আপনার ব্যথার আচরণ	১ = নৈমিত্তিক ২ = সবিরাম ৩ = সবসময় ৪= প্রযোজ্য নয়

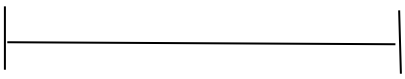
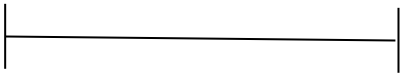
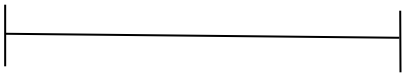
৩.৬	কার্যকলাপের সময় অঙ্গবিন্যাস	১ = বসা ২ = দাঁড়ানো ৩ = ভাঁজ ৪ = পিড়ির মত বসা
৩.৭	কোন অবস্থায় আপনার ব্যাথা সবচেয়ে বেসি?	১ = দাঁড়ানো ২ = বসা ৩ =শোয়া অবস্থায় ৪ =ভাজ অবস্থায় ৫ = হাঁটা ৬ = প্রযোজ্য নয়
৩.৮	আপনি কি আপনার কোমরে কোনো আঘাত পেয়েছিলেন?	১ = হ্যাঁ ২ =না
৩.৯	যদি আঘাত পেয়ে থাকেন তবে কোন ধরনের আঘাত?	১= মেঝেতে পরে গিয়ে ২= সরাসরি আঘাত ৩= সড়ক দুর্ঘটনা ৪= টানের আঘাত
৩.১০	আপনি কি কোমর ব্যাথার জন্য কখনও কোন চিকিৎসা নিয়েছেন?	১= হ্যাঁ ২=না
৩.১১	যদি নিয়ে থাকেন তবে কি ধরনের চিকিৎসা নিয়েছেন?	১=ঔষধ ২=ফিজিওথেরাপি ৩=অপারেশন ৪=প্রথাগত

		৫=অন্যান্য
৩.১২	আপনি কি কখনও ফিজিওথেরাপি চিকিৎসা নিয়েছেন	১ = হ্যাঁ ২ =না

৪র্থ পর্ব

লাম্বার করসেট সম্পর্কিত প্রশ্ন

নাম্বার	প্রশ্ন	প্রত্যুত্তর / উত্তর
৪.১	আপনি কি লাম্বার করসেট সম্পর্কে কিছু জানেন?	১ = হ্যাঁ ২ =না
৪.২	আপনি কতদিন যাবত লাম্বার করসেট ব্যাবহার করেন?	.....দিন
৪.৩	এটা কি কোন চিকিৎসকের পরামর্শ দারা ব্যাবহিত?	১ = হ্যাঁ ২ =না
৪.৪	আপনি দিনের মধ্যে কত সময় এটি ব্যবহার করেন?	..... ঘণ্টা
৪.৫	আপনি কি ভ্রমনের সময় লাম্বার করসেট ব্যাবহার করেন?	১ = হ্যাঁ ২ =না

৪.৬	ভ্রমনের সময় লাম্বার করসেট ব্যাবহার কি ব্যথা কমাতে সাহায্য করে?	১ = হ্যাঁ ২ =না
৪.৭	আপনি কি ঘুমের সময় লাম্বার করসেট ব্যাবহার করেন?	১ = হ্যাঁ ২ =না
৪.৮	লাম্বার করসেট কি আপনার গতি রোধ করে?	১ = হ্যাঁ ২ =না
৪.৯	লাম্বার করসেট কি আপনার ব্যথা কমাতে সাহায্য করে?	১ = হ্যাঁ ২ =না
৪.১০	ভাস স্কেলে, লাম্বার করসেট ব্যাবহারের পূর্বে আপনার ব্যথা কেমন?	 ০ ১০ ১ = ১ -৩(অল্প ব্যাথা) ২ = ৪-৬ (মাধ্যম ব্যথা) ৩ = ৭-১০ (তীব্র ব্যথা)
৪.১১	ভাস স্কেল, লাম্বার করসেট ব্যাবহারের সময় আপনার ব্যথা কেমন?	 ০ ১০ ১ = ১ -৩(অল্প ব্যাথা) ২ = ৪-৬ (মাধ্যম ব্যথা) ৩ = ৭-১০ (তীব্র ব্যথা)
৪.১২	ভাস স্কেল, লাম্বার করসেট ব্যাবহারের পরে আপনার ব্যথা কেমন?	 ০ ১০ ১ = ১ -৩(অল্প ব্যাথা)

		২ = ৪-৬ (মাধ্যম ব্যথা) ৩ = ৭-১০ (তীব্র ব্যথা)
৪.১৩	লাম্বার করসেট ব্যাবহার করে আপনি কি পরিমাণ সন্তুষ্ট?	১= সন্তুষ্ট না ২ = নূন্যতম সন্তুষ্ট ৩= সংযমী সন্তুষ্ট ৪= অত্যন্ত সন্তুষ্ট

English questionnaire

Title: Prevalence of using lumbar corset in low back pain patients.

Part- I: Personal details

1.1. Name of participant Code no:

1.2. Address:

Village/house no……..

Post office……

Thana……

District…….

1.3. Contact number:

1.4. Date of interview: DD/MM/YY……

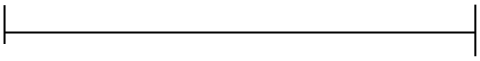
Part- II: Socio-demographic Information

2.1	Age	1 = (In year): ……. Yrs
2.2	Sex:	1= male 2= female
2.3	Body weight	……Kg
2.4	Body type	1=Thin 2= Medium 3= Over weight 4=Obese
2.5	Marital status	1 =Married 2 =Unmarried 3 =Divorced 4 =Separate 5 =Widow 6=Widower
2.6	Educational level	1 =No formal Schooling 2 =Less then primary School

		3 =Primary Completed 4 =SSC Completed 5 =HSC Completed 6 = Graduate Complete 7 =Masters Completed 8 = Others Completed
2.7	Occupation	1= Farmer 2= Day labourer 3= Service holder 4= Garments/ Factory worker 5= Driver 6= Rickshaw puller
2.8	Average monthly income	……..taka

Part-III: low back pain related Information

(To be collected from Record/ Care provider/Clinical examination)

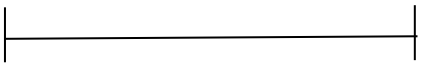
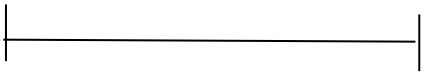
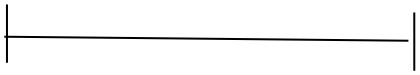
QN	Questions	Responses/Answers
3.1	Do you feel LBP ?	1= Yes 2 = No
3.2	How severe is your pain on VAS Scale?	 0 10 1 =1-3(Mild pain) 2 = 4-6(Moderate Pain) 3 = 7-10(Severe Pain)
3.3	Exact area of pain:	1= Central back region 2 = Both buttock 3 = Radiated to above knee 4= Radiated to Below knee 5= Not applicable

3.4	Duration of pain: ……..	1= < 1 month 2 = 1 – 6 months 3= 7 –12 Months 4= 2 ≥3 years 5= Not applicable
3.5	The behaviour of your pain :	1= Occasional 2= Intermittent 3 = Constant 4 = Not applicable
3.6	Posture during the activity :	1= Sitting 2 = Standing 3 = Bending 4= Squatting
3.7	Which posture make your pain worse?	1= Standing 2= Sitting 3= Lying 4= Bending 5= Walking 6= Not applicable
3.8	Have you get any trauma in your back ?	1= Yes 2 = No
3.9	If yes what type of trauma?	1= Fall on the ground 2= Direct trauma 3= RTA 4= Stretch injury
3.10	Have you ever taken any treatment for LBP ?	1 = Yes 2 = No
3.11	If yes what kind of treatment did you	1 = Medication 2 = Physiotherapy

	receive?	3 = Surgery 4 = Traditional 5 = Others (Specify …….)
3.12	Have you ever taken Physiotherapy treatment?	1= Yes 2= No

Part-IV: lumbar corset related Information

QN	Questions	Responses/Answers
4.1	Do you know lumbar corset?	1= Yes 2= No
4.2	How many days you have using lumbar corset?	……..days
4.3	Is it prescribed by professionals?	1= Yes 2= No
4.4	How long time you have use corset in a day?	……hours
4.5	Do you use lumber corset in journey?	1= Yes 2= No
4.6	Is it useful to reduce pain in journey?	1= Yes 2= No
4.7	Do you use lumber corset during sleep?	1= Yes 2= No
4.8	Is lumbar corset prevents lumber motion?	1= Yes 2= No

4.9	Is lumbar corset helpful For reducing pain?	1= Yes 2= No
4.10	How severe is your pain before using lumber corset. according to VAS scale	 0 10 1 =1-3 (Mild pain) 2 = 4-6 (Moderate Pain) 3 = 7-10 (Severe Pain)
4.13	How severe is your pain during using lumber corset according to VAS scale.	 0 10 1 =1-3(Mild pain) 2 = 4-6(Moderate Pain) 3 = 7-10(Severe Pain)
4.12	How severe is your pain after using lumber corset	 0 10 1 =1-3(Mild pain) 2 = 4-6(Moderate Pain) 3 = 7-10(Severe Pain)
4.13	What is your satisfaction level about lumber corset?	1=Not satisfied 2=Minimum satisfied 3=Moderate satisfied 4=Highly satisfied

Permission letter

August 10, 2015

Head

Department of Physiotherapy

Centre for the Rehabilitation of the Paralysed (CRP)

Chapain ,Savar , Dhaka-1343.

Through: Head, Department of Physiotherapy, BHPI.

Subject: Seeking permission of data collection to conduct my research project.

Dear Sir,

With due respect and humble submission to state that I am Imtiaze Ahmed, student of 4th Professional B.Sc. in Physiotherapy at Bangladesh Health Professions Institute (BHPI). The ethical committee has approved my research project entitled on **"prevalence of using lumbar corset in low back pain patients"** under the supervision of Md. Ehsanur Rahman , lecturer, Department of Physiotherapy,CRP. Conducting this research project is partial fulfillment of the requirement for the degree of B.Sc. in Physiotherapy. I want to collect data for my research project from the patients of CRP. So, I need permission for data collection from the Musculoskeletal outpatient unit of Physiotherapy department of CRP- Savar campus. I would like to assure that anything of my study will not be harmful for the participants.

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

Sincerely Yours

Imtiaze Ahmed

4th Professional B.Sc. in Physiotherapy

Roll-06, Session: 2010-2011

Bangladesh Health Professions Institute (BHPI)

(An academic Institute of CRP)

CRP, Chapain, Savar, Dhaka-1343.

E. Rahman
24.08.15

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

Please go ahead and please contact with Mr. M. Kamal, clinical PT on counter part of your data collection process

24/08/15
Mohammad Ehsanur Rahman
Associate Professor &
Head of Physiotherapy Dept.
CRP, Chapain, Savar, Dhaka