PREVALENCE OF LOW BACK PAIN AMONG THE OVERWEIGHT PERSON

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

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PREVALENCE OF LOW BACK PAIN AMONG THE OVERWEIGHT PERSON

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

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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 bebound to take written consent of my supervisor.

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Acknowledgement

Acronyms

BHPI	Bangladesh Health Professions Institute.
BMI	Body Mass Index
CRP	Center for the Rehabilitation of the Paralyzed.
LBP	Low Back Pain
MS	Musculoskeletal
NSAID	Non-Steroid Anti Inflammatory Drug
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 low back pain among the overweight persons. *Objectives:*To explore the socio-demography (age, economical status, marital status, educational background, living area) of the affected group;to find the prevalence of low back pain by age and sex;to determine more affected age group, to assess the severity of pain by using Visual Analog Scale and to identify the behavior of pain.*Methodology:* The study design was cross-sectional. Total 75 samples were selected conveniently for this study from the Musculoskeletal unit of CRP. 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. *Results*: The finding of the study was that the 76% overweight persons suffered from LBP. Most of them had been suffered from moderate LBP with 54.4% were central LBP and 45.6 were radiated LBP, 40% participants felt constant BLP, 26.7% felt intermittent LBP and 9.3%occasional LBP. 98.2% overweight persons who suffered from LBP took different kinds of treatment, among them 77.2% took physiotherapy with other treatment for their LBP. *Conclusion:* From this study it could conclude that the overweight persons are more vulnerable to felt LBP. This study could help the general population who had risk of LBP, the researcher for further study and the physiotherapist to treat the LBP accurately.

1. 1Background

Low back pain (LBP) is the most common symptoms experienced by people throughout the world (Charoenchai et al., 2006). Low back pain is a common health problem. It is a common cause of work-related disability and sickness absence (Andersson, 1999). According to WHO 2003 LBP 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). In Canada it is estimated that 84% of adults have LBP during their life time (Cassidy et al., 1998). Average prevalence of LBP in UK were 59% (Waxman, et al., 2000).Prevalence of low back pain in Denmark is 70% (Herreby et al., 1996) and 75% in Finland (Heliovaara et al., 1989).

Low back pain (LBP) is the second most common cause of disability in US adults and a common reason for lost work days. Overweight and obesity are public health problems, due to their rapid growth in recent decades and their related health disorders. In recent years, the statistics about obesity were appalling. In 2010, almost 43 million children (35 million in developing countries and 8 million in developed countries) were estimated to be overweight or obese (Biglarian et al., 2012). Overweight and obesity are the fifth leading risk for global deaths. At least 2.8 million adults die each year as a result of being overweight or obese. In addition, 44% of the diabetes burden, 23% of the ischaemic heart disease burden and between 7% and 41% of certain cancer burdens are attributable to overweight and obesity (WHO, 2013).

Obesity poses serious health problems both in developed and in developing countries.The prevention and control of obesity in developing countries deserve urgent attention since the disease is expected to double in these countries in the next 20 to 25 years. Obesity is a growing public health concern. Globally, the number of overweight or obese people is dramatically increasing. Obesity contributes

substantially to the burden of chronic medical conditions, and these medical conditions place a high economic burden on the health care systems (Haslam, 2005).

In the last 15 years, obesity rates have increased twofold, morbid obesity rates of BMI values greater than 40 have increased fourfold, and morbid obesity rates of BMI values greater than 50 have increased fivefold (Sturm, 2003; McTigue *et al,*, 2006; Coyte *et al.*, 1998). The number of Americans suffering from chronic low back pain is on the rise, and a new study says the nation's obesity epidemic may be partly to blame. In North Carolina, the percentage of people suffering from chronic low back pain has more than doubled since the early 1990s, according to researchers, who see the state as a mirror of the nation. Low back pain is a prevalent and expensive problem in society (Van-Tulder et al., 1995). The two-week prevalence of low back pain in western countries has been reported to vary between 2% and 33% (Walker, 1999).Several studies have examined the co-occurrence of chronic pain conditions and obesity. Osteoarthritis and back pain, two of the most common chronic pain conditions, commonly coexist with obesity (Lake et al., 2002).

In the United Sates Chronic low back pain and obesity are highly prevalent conditions associated with substantial impairments, and responsible for a large portion of physician visits and healthcare costs. Based on recent estimates, 65% of all adults were either overweight or obese, and these rates have dramatically increased in recent years. The annual cost of obesity was estimated to be $118 billion. Likewise, chronic pain is one of the most prevalent complaints in primary care affecting over 50 million people, resulting annually in an estimated $70 billion in direct healthcare expenditures and lost productivity (Wright et al., 2010).

Low back pain (LBP) is one of the most common problems nowadays. Obesity, together with overweight, which means a higher body mass index (BMI), correlate with worsening of life-quality and muscle-skeleton functioning. Obese people often look for medical help in relation to their complaints of back muscle pains (Seidell et al., 1986).

1.2 Rationale

The aim of the study was to find out the prevalence of LBP among theoverweight person. Literature showed that prolong static posture like stooping, bending, sitting, standing, as well as prolong squatting proposed to be associated with LBP. Overweight and obesity are the serious health problem both in developed and in developing countries. Overweight and obesity can cause various health problems such as cardiovascular disease, diabetes, LBP, cancers and other health related diseases. It is important to know how many overweight persons are affected by LBP. 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.

Research makes the profession strongest. So there is no alternative option to do research as a professional to develop the profession .In our country there is no such study about low back pain among the overweight person. So this study will helps physiotherapist to treat the patient.

1.3 Research Question

What is the prevalence of low back pain among the overweight person's attending at the musculoskeletal department of CRP?

1.4 Objectives

1.4. 1 General objective

- To identify the prevalence of low back pain among the overweight persons.

1.4. 2 Specific objectives

- To calculate the number of low back pain patients among the overweight persons at CRP musculoskeletal unit.
- To explore the socio-demography (age, economical status, marital status, educational background, living area) of the affected group.
- To find out the prevalence of low back pain by age and sex.
- To determine more affected age group.
- To assess the severity of pain by using Visual Analog Scale.
- To identify the behavior of pain.
- To define treatment seekness behavior among the LBP affected patients.

1.5 List of Variables

Conceptual framework

Independent variables	Dependent variables

Socio demography: age, sex, occupation

BMI

Heavy weight lifting

Trauma

Posture during activity: bending, sitting, standing, walking

Leisure time & activity: watching TV, gossiping, reading etc.
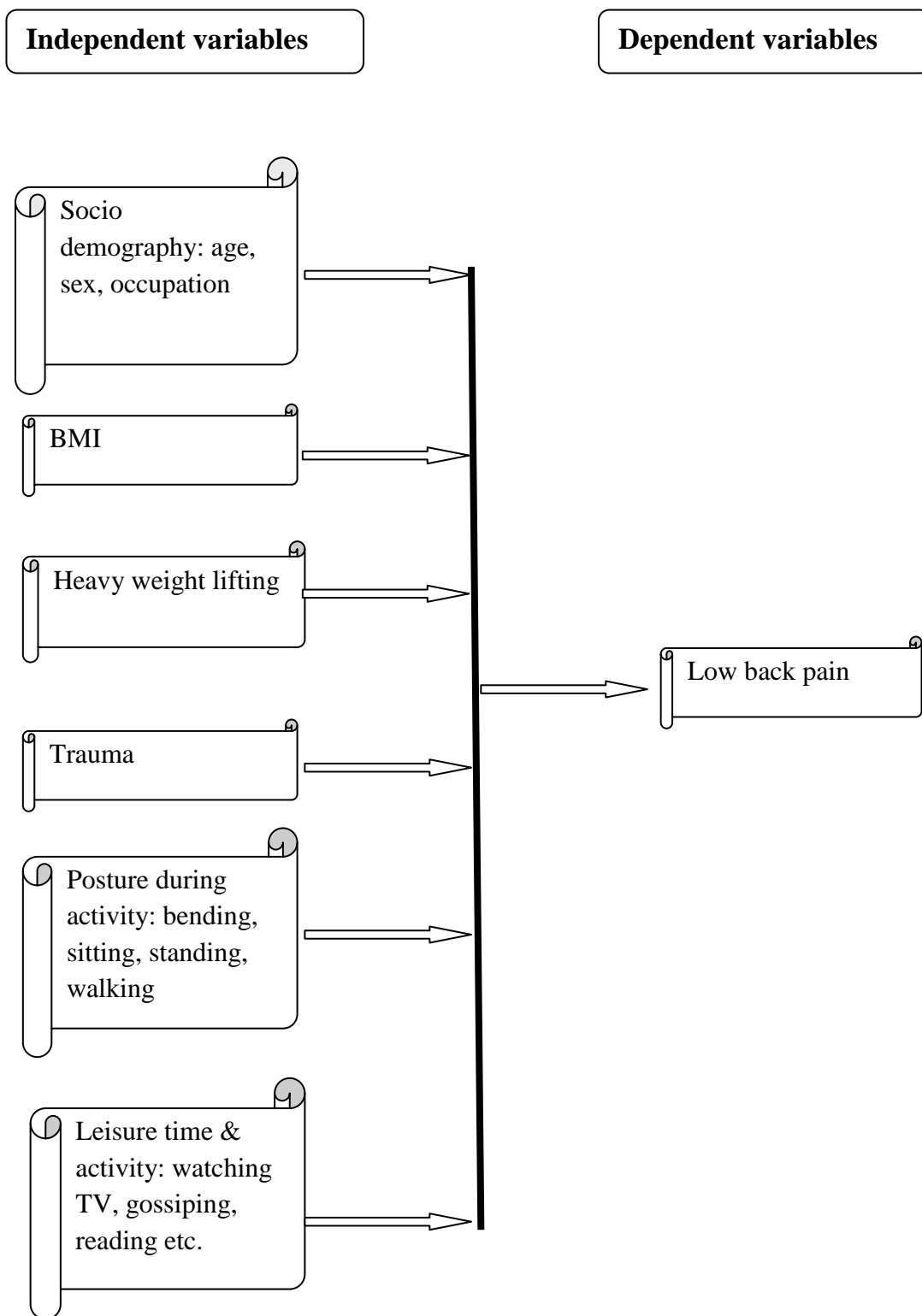
Low back pain

1.6 Operational definitions

Low back pain

Low back pain is neither a disease nor a diagnostic entity of any sort. The term refers to pain of variable duration in a area of the anatomy afflicted so often that it is has become a paradigm of responses to external and internal stimuli.

BMI

BMI was calculated from reported weight and height, and categorised as underweight (< 20), acceptable (≥ 20 to < 25), overweight (≥ 25 to < 30) and obese (≥ 30).

Overweight

Body mass index (BMI) greater than or equal to 25 is overweight.

Obesity

Body mass index (BMI) greater than or equal to 30 is obesity.

Obesity is defined as having BMI of greater than30 kg/m2. BMI is calculated based on the self-reported body weight and height(weight/height2)

Pain is a defense mechanism of the body to create an awareness of the subject to protect the injured part from further damage. Low back pain more accurately called lumbago or lumbosacral pain occurs below the 12th rib and above the gluteal fold (Sikiru & Hanifa, 2010). Low back pain is a common musculoskeletal symptom that may be either acute or chronic. It may be caused by a variety of diseases and disorders that affect the lumbar spine (Leach et al., 1973). Low back pain 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 (Waddell, 2005). According to the anatomical view, the term LBP refers to pain in the lumbosacral area of the spine encompassing the distance from 1st lumber vertebra to 1st sacral vertebra. This is the area of the spine where the lordotic curve form. The most frequent site of LBP is in the 4th and 5th lumber segment (Kravitz & Andrews, 1984).

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. 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). It is a common and disabling disorder in western society. The management of LBP comprises a range of different intervention strategies including surgery, drug therapy, and non-medical interventions (Middelkoop et al., 2011).

The low back architecture consists of vertebral bodies (the bones of the spine), vertebral discs (cushions between the bones), cartilage (lines the bones that connect with other bones), supportive structures surrounding the spine, such as muscles,

tendons (connecting muscle to bone), ligaments (connecting bone to bone) (Integrative pain medicine, 2012). A number of options exist for patients with intractable back pain and degenerative disc disease (DDD). Interbody fusion techniques exploit the mechanical advantages of the disc space anteriorly, including a large fusion bed, excellent blood supply and graft compression (Truumees et al., 2008). The occurrence of LBP has been linked with various abnormalities of the spine on MRI, evidence being strongest for disc herniation (protrusion or worse), nerve root deviation/compression, disc degeneration and high intensity zone (HIZ). However, each of these abnormalities can be found in the absence of symptoms, and many patients with back complaints do not exhibit any demonstrable pathology on MRI (Shambrook et al., 2011).

Mechanical low back pain (MLBP) is a major public health problem (Phaner et al., 2009). In USA, There were almost 15 million office visits for "mechanical" low back pain in 1990, ranking this problem fifth as a reason for all physician visits. Low back pain accounted for 2.8 percent of office visits in all three time periods (Hart et al., 1995). Lack of feed forward activation of selected trunk musculature in patients with MLBP may result in a period of inefficient muscular stabilization (Silfies et al., 2007). MLBP is commonly aggravated by activities that increase axial loading in the spine, such as sitting, standing, and walking. Patients with mechanical LBP usually describe relief with positions that unload the spine. One traction technique now being used in clinics to unload the spine is the partial body-weight support (PBWS) system. The use of endurance exercise has also been found to be a consistent predictor of better outcomes in patients with LBP (Joffe et al., 2002). Today's standard care strategy involves a combination of drug-based and non-drug therapies. The use of conservative orthopedic brace treatment is subject to debate (Phaner et al., 2009). Evidence suggests that spinal manipulation is an effective treatment for mechanical neck and low-back pain (LBP). Treatment efficacy is important to establish for these symptoms because combined they account for a considerable amount of disability and substantial associated direct and indirect costs to society (McMorland & Suter, 2000).

LBP is categorized by the duration of symptoms as: acute LBP (0-6weeks), sub acute LBP (> 6 weeks but < 3 months), chronic LBP (> 3 months), recurrent LBP (Alvarez, et al., 2010). According to identifiable causes the LBP can be divided as: (a) Non-

specific LBP (majority about 90%): it means that there is no specific cause to develop the LBP. (b) Specific LBP: it means that there are some causes to develop the LBP, the main causes include: Fracture, infection, cauda equine syndrome, tumours (serious pathologies), Spinal stenosis, spondylolisthesis, spondylolysis, disc prolapse, inflammatory disorders (Tsang, 2010).

Mechanical causes (80-90%): Pain from mechanical causes is typically aggravated with motion and relieved with rest. The mechanical causes of LBP are given bellow Lumber strain (65-70%): A lumbar strain is a stretch injury to the ligaments, tendons, and or muscles of the lower back. The stretching incident results in microscopic tears of varying degrees in these tissues. Lumbar strain is considered one of the most common causes of LBP. The injury can occur because of over use, improper use or trauma (Cohen et al., 2009).

Neurogenic (5-15%): Disk herniation: Intervertebral disc herniation usually occurs with a sudden physical event, such as lifting a heavy object or sneezing. The disc herniation causes nerve impingement and inflammation resulting in radicular pain (Borenstein, 1998). Disk herniation occurs most commonly between the fourth and fifth lumbar vertebrae and between the fifth lumbar and first sacral vertebrae. Patients with disk herniation have pain with forward flexion, whereas patients with spinal stenosis have pain with extension (Karnath, 2003). Spinal Stenosis: Spinal stenosis refers to narrowing of the spinal canal. There are a variety of causes. The most common cause is a combination of degenerative spine disease (osteoarthritis of the spine) and bulging or herniated discs. Some studies suggest that spinal stenosis accounts for approximately 3% of LBP (Stop Pain.org, 2013).This condition should be suspected in patients with LBP that is aggravated by walking and with hyperextension of the back and that is relieved by rest or flexion of the back because the volume of the spinal canal increases with back flexion and decreases with extension (Karnath, 2003). The others neurogenic causes of LBP are: osteophytic nerve root composition, annular fissure with chemical irritation of nerve root, failed back surgery syndrome which include arachnoiditis, epidural adhesions, recurrent herniation, may cause mechanical back pain (Cohen et al., 2009).

Non-mechanical spinal conditions (1-2%): Patients with a non-mechanical cause of LBP report pain that occurs at rest and is less affected by motion. The non mechanical causes of LBP are described below

Neoplastic Disease: Malignant neoplasm accounts for less than 1% of episodes of LBP. However, metastatic cancer should be considered as a potential etiology in any patient with a previous history of cancer, until proved otherwise. A key historical finding is that back pain due to cancer is unrelieved by bed rest and typically worsens at night. Onset is usually slow and progressive.

Infection: Infectious etiologies of acute LBP include osteomyelitis, septic discitis, and paraspinal or epidural abscess and infectious etiologies of chronic LBP include fungal or tuberculous infections. Patients typically first report fever and sharp focal pain in the lumbar spine (Karnath, 2003). Besides these there are some non mechanical causes of LBP that's are Inflammatory arthritis (such as rheumatoid arthritis and spondyloarthropathies, including ankylosing spondylitis, reactive arthritis, enteropathic arthritis); Paget's disease; Scheuermann's disease; Baastrup's disease (Cohen et al., 2009).

Referred visceral pain (1-2%): Common diseases causing referred back pain include: gastrointestinal diseases-inflammatory bowel disease, pancreatitis, and diverticulitis; renal disease-nephrolithiasis, pyelonephritis (Cohen et al., 2009); Vascular diseases-abdominal aortic aneurysms, Diseases of the pelvis endometriosis. Patients with back pain caused by visceral diseases the pain has not been related to activity and pain are worse when they are lying down (Karnath, 2003).

Other (2-4%): Besides the above mentioned causes of developing LBP, there are also some psychological causes to develop the LBP which include: Fibromyalgia (Prevalence studies demonstrate a consistent majority of women suffering from fibromyalgia as compared to men) (Malterud, 1998), somatoform disorder-somatisation disorder, pain disorder, Malingering (Cohen et al., 2009). Most people know that obesity contributes to the development of coronary heart disease, diabetes, high blood pressure, and colon cancer. However, did you know that obesity is a contributing factor to back pain? It's true. Being overweight or obese can significantly

contribute to symptoms associated with osteoporosis, osteoarthritis (OA), rheumatoid arthritis (RA), degenerative disc disease (DDD), spinal stenosis, and spondylolisthesis. The spine is designed to carry the body's weight and distribute the loads encountered during rest and activity. When excess weight is carried, the spine is forced to assimilate the burden, which may lead to structural compromise and damage (eg, injury, sciatica). One region of the spine that is most vulnerable to the effects of obesity is the low back—the lumbar spine. Lack of exercise can lead to poor flexibility and weak muscles in the back, pelvis, and thighs. This can increase the curve of the lower back, causing the pelvis to tilt too far forward. Further, this is detrimental to proper posture and as posture weakens, other regions of the spine (neck) may become painful (Siliveri & Spinasanta, 2013).

There are many factors increase the risk of developing LBP. Some of these factors are important risk factors for the development of persistent LBP. These are
Physical activities: The most common risk factor for the women is heavy physical activities, especially in case of housewives, the most common activities include collecting water, harvesting, and carrying heavy objects, including children, increased the risk of low back pain (Hoy et al., 2003), frequent bending, twisting, lifting, pulling and pushing, repetitive work, static postures and vibrations also associated with LBP (Tulder et al., 2001).

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).

Physical fitness is defined 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 physical fitness is associated with LBP (Andersen, 2007). Physical fitness and conditioning have significant preventive effects on back injuries (Pope, 1989). The prevalence rate is higher among the females might be due to poorer physical fitness of them (Taechasubamorn et al., 2011).

Obesity: 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 (Nikolov et al., 2009).

Posture: Physical exposures at work such as bending, twisting, manual material handling, andwhole body vibrations are considered to be risk factors for LBP (Plouvier et al., 2009).Heavy manual lifting is stronglyassociated with LBP, however the effect size is considered to be modest (Lederman, 2011).

Previous Back Injury: The single best predictor of LBP is a previous back injury (Low Back Pain, 2011). 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% (Vindigni et al., 2005).

Psychological, social and spiritual factors: Psychological factors have been consistently found to be associated with LBP (Feyer et al., 2000). Psychological variables associated with low back include stress, distress, mood and emotions, cognitive, functioning, pain behavior and depressive disorder. Another study also supports that there is a strong association between LBP and depressive disorders (Manek et al., 2005). A Research showed that poor mental health statussignificantly increased the risk of LBP by 1.11 times comparedto the normal mental status (Samad, 2010).

Pregnancy: LBP in women commonly occur during pregnancy. About 50% women complain of LBP during pregnancy. Up to 30% pregnant women complain of nocturnal pain. The incidence of back pain increase during 5th to 7th months of pregnancy (Cole, 2003). According toSilman et al. (1995) there was a linear trend of increasing risk with increasing numbers of children.

Oral contraceptive: Many health care professions believe that there is an association between the oral contraceptive use and LBP. But there is no scientific supportive evidence which show the association between the LBP and use of oral contraceptive. But for the chronic LBP, the occurrence rate increased with the increased duration of oral contraceptive use (Winjnhoven et al., 2006).

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 (Back Pain Health Center, 2005). 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 (Back Pain Health Center, 2010).

The cause of the back pain is most often diagnosed through a history and a physical exam. Only 10% of those suffering from acute back pain will require any special diagnostic testing, these tests are not performed unless pain persists for more than four to six weeks (Slowik, 2012).

According to the World Health Organization, Body Mass Index (BMI) is a simple index of weight for height that is commonly used to classify underweight, overweight and obesity in adults. It is defined as the weight in kilograms divided by the square of the height in meters (kg/m2). For example, an adult who weight 70kg and whose height is 1.75m will have a BMI of 22.9.

$$BMI = 70kg/(1.75\ m2)=70/3.06 = 22.9$$

For adults

- Underweight: BMI < 20

- Normal : BMI 20-24.9

- Overweight: BMI 25-29.9

- Obesity: BMI 30-39.9

- Extreme obesity: BMI ≥40 (WHO, 2013).

The body mass index (BMI) has been recognized worldwide as an effective method of quantifying obesity by the world health organization. It is a simple and cost effective method of assessment that can be used with great benefit everywhere. BMI is a better predictor of disease risk than body weight alone.

The BMI can be used as a measure to help us understand the possible complication that can occur in different patients. This is especially important for the prevention of complication. Obesity leads to numerous complications that affect virtually every system and organ of the human body.

A survey by Mokdad et al. (2003) reported that individuals classified with extreme obesity (BMI>40) were 7 times more likely than people with normal body weight to be diagnosed with diabetes and 6 times more likely to have hypertension. Kenchaiah et al. (2002) have reported that individuals who are only "slightly" overweight face an increased risk of heart failure, independent of other risk factors associated with obesity. They also noted that each 1-unit increment of BMI was associated with a 5% increased risk of heart failure in men and a 7% increased risk for women.

Obese men faced an increased incidence of stroke compared with men of normal weight. It was also reported that each unit increase in BMI was associated with a 6% increase in the incidence of all stroke (Kurth et al., 2002). De Michele et al. (2002) identify obesity is a independent risk factor for increased carotid intima-media thickness, that is a marker of coronary artery disease and stroke. Women with highest BMI had an increased incidence in carotid artery thickening compared with women who had lower BMI. They concluded that high value of BMI is significant and independent predictor of carotid wall thickness.

Other recent studies by Sinha et al. (2002) and Singhal et al. (2002) have also highlighted correlation between high BMI levels and an increased risk of venous thromboembolism, Long QT syndrome in obese African-American women and arterial stiffnesss among obese children and adolescents..

Obesity has been established as a major risk factor for diabetes, cardiovascular diseases, musculoskeletal condition such as osteoarthritis (OA) and low back pain which are associated with restricted mobility, physical impairments and disability (Anandacoomarasamy et al., 2008). Obesity increases the risk of disability among people with and without self reported arthritis.

Overweight is defined as abnormal or excessive fat accumulation that may impair health.Body mass index (BMI) is a simple index of weight-for-height that is commonly used to classify overweight and obesity in adults. It is defined as a person's weight in kilograms divided by the square of his height in meters (kg/m^2)(WHO, 2013).

The WHO definition is:

- a BMI greater than or equal to 25 is overweight
- a BMI greater than or equal to 30 is obesity. (WHO, 2013)

Obesity has been defined as 'a physiological condition in which excess body fat has accumulated to an extent that can negatively affect health' (Bruce et al., 2009).The measure used most commonly to describe the level of fatness in populations is the body mass index (BMI). BMI is a weight-for-height measure, introduced as the Quetelet Index in the 1830s and widely used for the past several decades to estimatepopulation trends in fatness (Keys et al., 1972).

3.1 Study design

A cross sectional study design was selected by the researcher to carry out the research. These types of research are primarily used to determine prevalence (Mann, 2003). 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 site

The study was conducted at musculoskeletal department at CRP, Savar, Dhaka.

3.3 Study population

The study populations were who attended for physiotherapy treatment at CRP, Savar, Dhaka.

3.4 Sample size

The equation of sample size calculation are given below-

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

Here,

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

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

q= 1-p

  =1-0.68

=0.32

d= 0.05

According to this equation the sample should be more than 334 people but due to lack of opportunity the study sample was 75 patients with overweight or who had come to CRP for physiotherapy treatment.

3.5 Sampling procedure

The study was conducted by using the convenience sampling methods because it is the easiest, cheapest and quicker method of sample selection. It was be easy to get those subjects according to the criteria concerned with the study purpose through the convenience sampling procedure.

3.6 Inclusion criteria

- All patients attending at CRP Musculoskeletal department with BMI ≥ 25 was selected to explore the prevalence of LBP among the overweight person.
- Both male and female patients with any age group was selected.

3.7 Exclusion criteria

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

3.8 Data collection

3.8.1 Data collection instrument

Questionnaire was designed with mixed question. That was open ended question and close ended question. In that time, some other necessary materials were used like weight machine, height tap, scale, calculator, pen, mobile etc. Researcher took permission from each participant by using a written informed consent form in Bangla and English.

3.8.2 Procedure of data collection

In this study, it was clarified that the participant had the right to refuse to answer of any question during completing questionnaire. Researcher took permission from each participant by using a written informed consent form. After getting inform consent from the participants, a questionnaire was filled up with discussed the participants. Height was measured in standing position, with shoes removed, using a wall-mounted

height tap. Weight was measured with the subject in light indoor clothes, with shoes removed and emptied pockets. BMI (body mass index) was calculated as weight in kilograms divided by height in meters squared, and subjects were stratified into obese (BMI $\geq$ 30 kg/m2) , overweight (BMI 25- 29.9 kg/m2) normal (BMI 18-24.9 kg/m2). Stimuli that can destruct interviewee were removed to ensure adequate attention during interview. Face to face interview is the most effective way to get full cooperation of the participant in the survey.

3.9 Data analysis

Data was analyzed with the software named Statistical Package for Social Sciences (SPSS) Version 16.0. Data was numerically coded and captured in Microsoft Excel, using an SPSS 16.0 version software program. Microsoft Office Excel 2007 was used to decorate the bar graph and pie charts.

3.10 Informed consent

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

3.11 Ethical consideration

The permission was taken initially from the supervisor of the research project and from the course coordinator before conducting the study. The necessary information has been approved by the ethical committee of CRP and was permitted to do this

research. Also the necessary permission was taken from the in-charge of the rehabilitation division of CRP. The participants were explained about the purpose and goal of the study before collecting data from the participants. Pseudonyms were used in the notes, transcripts and throughout the study. It was ensured to the participants that the entire field notes, transcripts and all the necessary information will be kept in a locker to maintain confidentiality and all information will be destroyed after completion of the study. The participants were also assured that their comments will not affect them about any bad thing.

3.12 Limitations

There were a number of limitations and barriers in this research project which had affected the accuracy of the study, these are as follow:

- 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.

- The samples were collected only from the CRP musculoskeletal unit and the sample size was too small, so the result of the study could not be generalized to the whole population of overweight persons in Bangladesh.

- This study has provided for the first time data on the prevalence of LBP among the overweight persons in Bangladesh. 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.

- A convenience sampling was used that was not reflecting the wider population under study. Prevalence was identified by a questionnaire, and the validity and reliability of this method may be questionable. However, a questionnaire might be the only feasible method of assessing in large populations.

- The research project was done by an undergraduate student and it was first research project for him. Therefore, 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.

The aim of this study was to explore the prevalence of LBP among the overweight persons. 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 75 overweight and obese persons were taken as a sample to explore the prevalence of LBP among the overweight persons.

Socio demographical information

Age of the participants

The study was conducted on 75 participants of overweight person. Out of the participant the mean age of the participants was 40.77 (±13.63) years. The range is 45 with minimum age 20 years and maximum 65 years. Among the participants the higher number of the participants were at the of 24 and 50 years respectively and the numbers were 6% (8). The number of ≤40 years were 56.6% (41) and >40 were 43.4% (34).

Cross tabulation between age and sex

Age of participants	Gender		Total
	Male	Female	
20- 30 Years	13	12	**25**
31- 40 Years	10	6	**16**
41-50 Years	7	8	**15**
51- 65 Years	11	8	**19**
Total	**41**	**34**	**75**

Table - 1: Age – sex cross tabulation

Male & Female ratio

Among the 75 participants 54.7% (41) were male and 45.3% (34) were female. And among the 57 participants who were suffered from LBP 33 were male and 24 were female. The percentage was male 57.9% and female 42.1%.
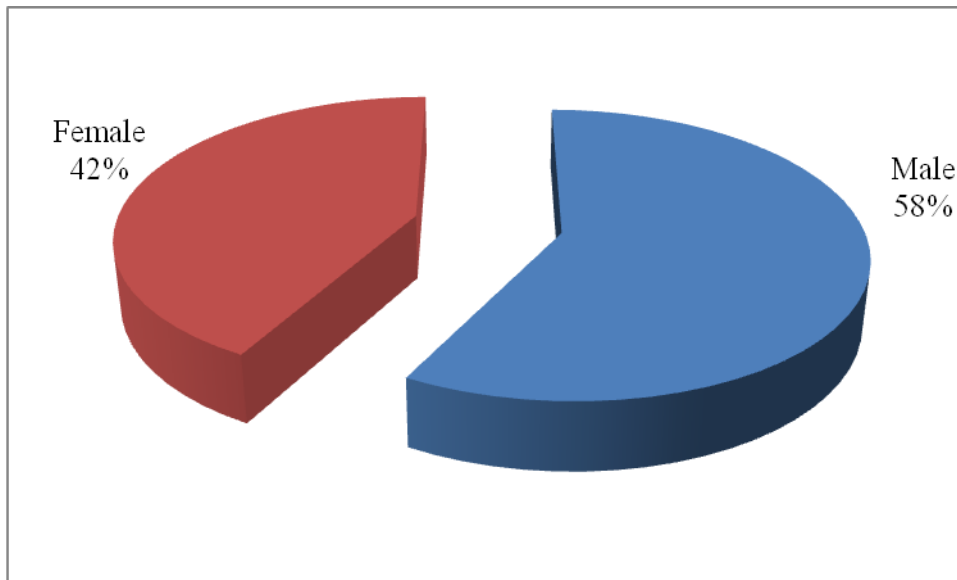
Figure - 1: Male & female ratio

Occupation

The study was conducted on 75 participants of overweight persons. Among them 2.7%(n=2) were farmer, 1.3% (n=1) were day laborer,18.7%(n=14) were service holder, 1.3% (n=1) were garment/ factory worker, 2.7% (n=2) were driver, 17.3% (n=13) were businessmen, 36% (n=27) were house wife, 1.3% (n=1) were teacher, 14.7% (n=11) were student and 4% (n=3) were retired persons.

Occupation	Number	Percentage (%)
Farmer	2	2.7
Day laborer	1	1.3
Service holder	14	18.7
Garment/ factory worker	1	1.3
Driver	2	2.7
Businessmen	13	17.3
House wife	27	36
Teacher	1	1.3
Student	11	14.7
Retired persons	3	4
Total	**75**	**100**

Table - 2: Occupation of the participants

Living area

Study showed that among 75 participants majority of participants 64% (n=48) were lived in rural area and rest of the participants 36% (n=27) were lived in urban area. Among the participants who suffer from LBP, 63.2% (36) were lived in rural area and 36.8% (21) participants were lived in urban area.
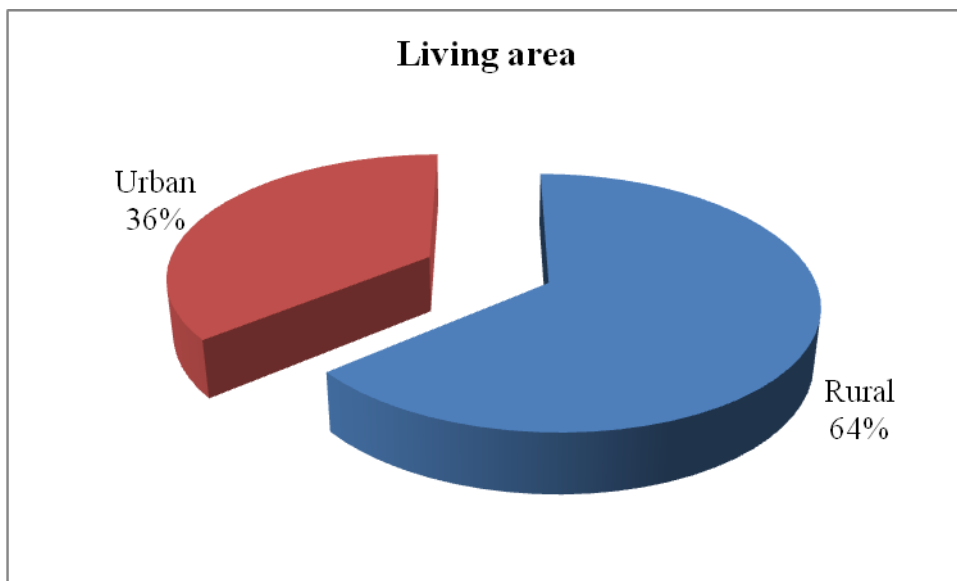
Figure - 2: Living area of the participants

Educational level

Among the 75 participants 2.7% (n=2) participants were illiterate, 4% (n=3) participants were literate, 9.3% (n=7) participants primary passed, 25.3% (n=19) participants were secondary passed, 24% (n=18) participants completed S.S.C level, 10.7% (n=8) participants completed H.S.C level, 22.7% (n=17) participants were graduate and only 1.3% (n=1) participant was post graduate holder.

Among the affected participants 3.5% (n=2) were illiterate, 5.3% (n=3) were literate, 8.8% (n=5) were primary passed, 28.1% were secondary passed, 22.8% (13) were S.S.C. passed, 10.5% (n=6) were H.S.C. passed, 19.3% (n=11) were graduate and 1.8% (n=1) affected participant were post graduate.
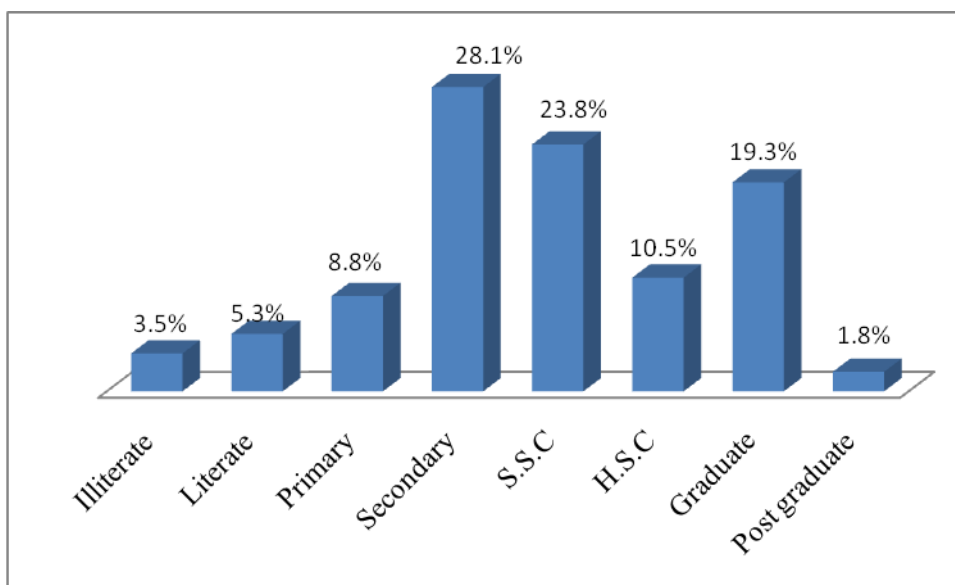
Figure - 3: Educational level of the participants

Body type

In this study among the 75 participants according to the BMI 73.3% (n=55) participants were overweight and rest of the participant 26.7% (n=20) were obese.
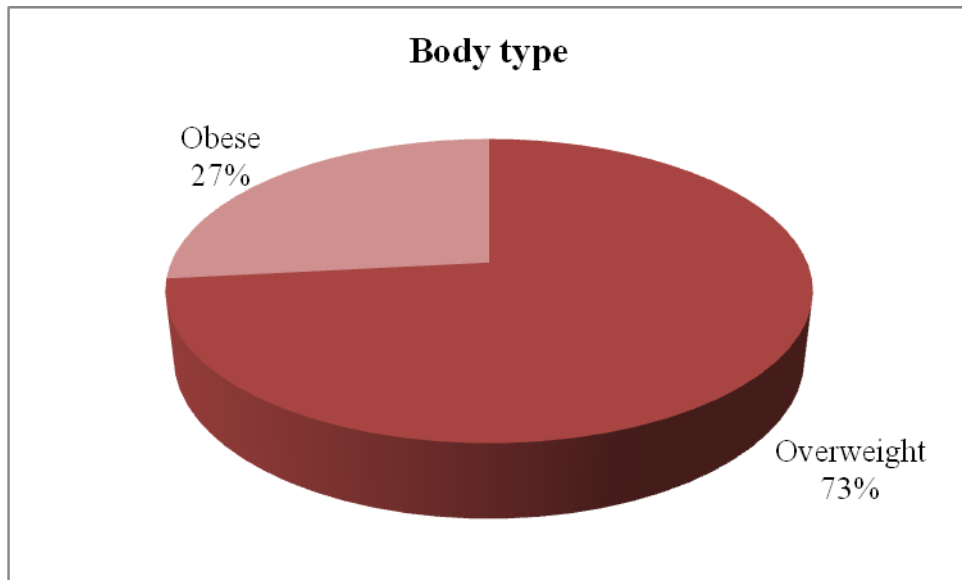
Figure - 4: Body type of the participants

Relation between body type and sex

In study it was found that among the 75 participants 73.3% (n=55) participants were overweight and rest of the participant 26.7% (n=20) were obese. Among overweight participants, 60% (33) were male and 40% (22) were female. Among obese persons 40% (8) were male and 60% (12) were female.

Cross tabulation between body type and sex

Gender	Body type in BMI		Total
	Overweight	Obese	
Male	33	8	**41**
Female	22	12	**34**
Total	**55**	**20**	**75**

Table – 3: Cross tabulation between body type and sex

Posture during activity

Most of the participants 64% (n=48) maintained their sitting posture during the activity most of the time in day, 10.7% (n=8) participants maintained standing posture, 17.3% (n=13) participants maintained bending posture and rest of participants 8% (n=6) maintained squatting posture.
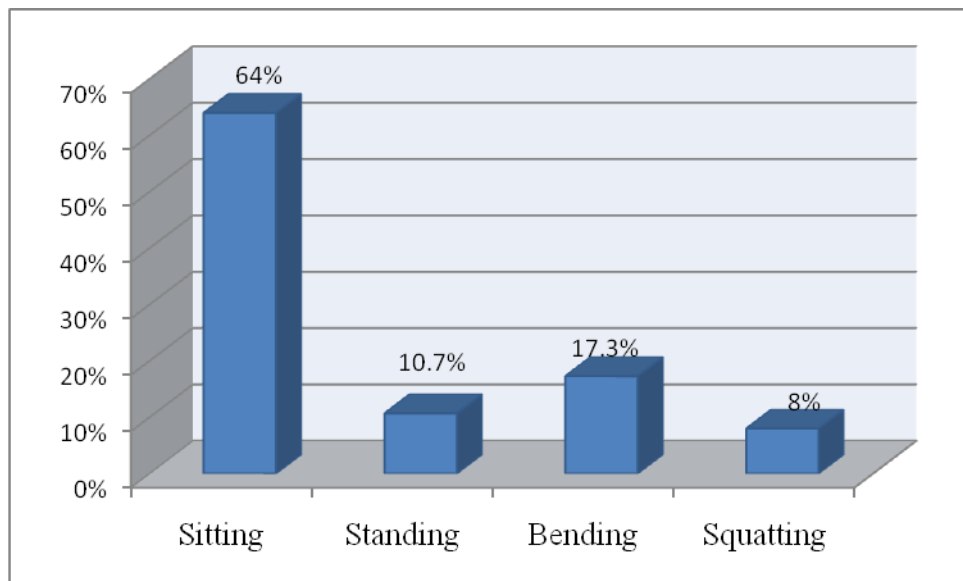
Figure - 5: Posture during activity

Prevalence of LBP

From this study it was found that among the 75 participants of overweigt pesons 76% (n=57) had been suffer from LBP and 24% (n=18) had not been suffer from LBP.
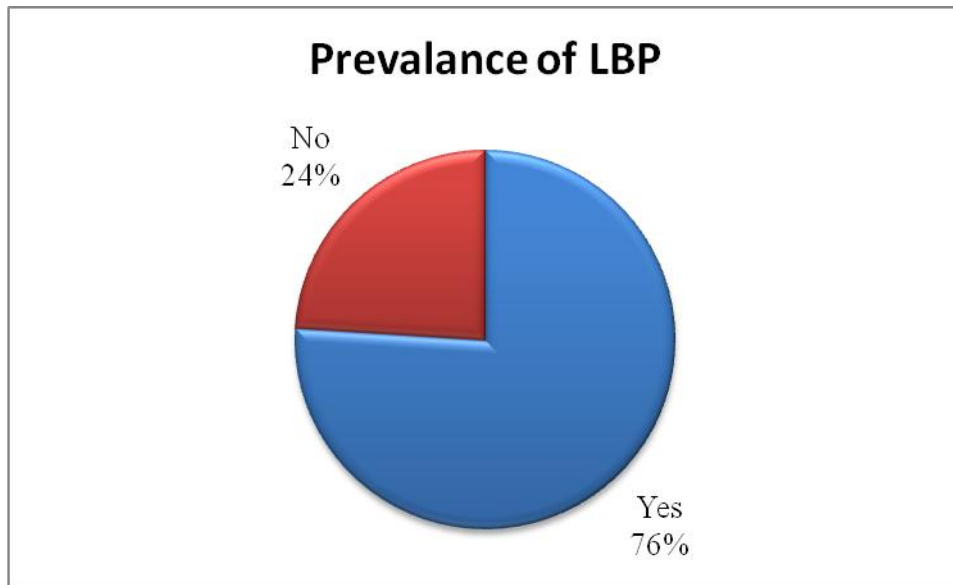
Figure - 6: Prevalence of LBP

Severity of pain

Among the participants who suffered from LBP, the severity of pain in VAS scale was in between 1-4 (mild pain) was 22.8% (n=13) of affected group, 5-7 (moderate) was 54.4% (n=31) and 8-10 (severe) was 22.8% (n=13) of affected participant by LBP. The majority of participants who suffer from LBP during the study severity of pain was moderate in VAS scale.

Severity of LBP

Severity of pain	Number	Percentage (%)
Mild	13	22.8
Moderate	31	54.4
Severe	13	22.8
Total	**57**	**100**

Table - 4: Severity of LBP

Area of Pain

Who had been suffering from LBP, the area of the pain was central back region 54.4% (n=31), radiated to the above knee 14% (n=8) and radiated to the below knee 31.6% (n=18) in the affected group. There was no participant who suffered pain on both buttock.
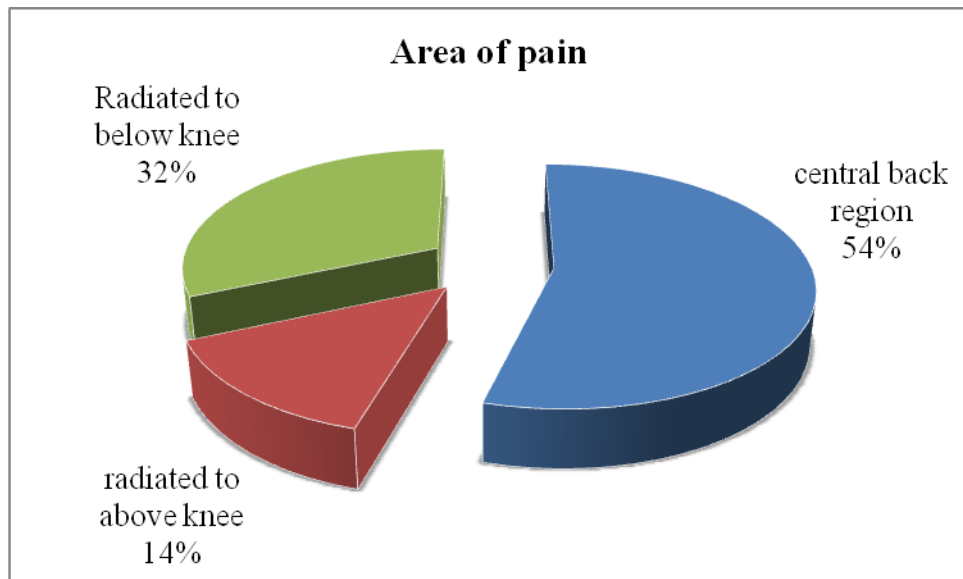
Figure - 7: Area of the pain

Duration of pain

5.3% (n=3) of participants had been suffering from LPB for <1 month, 28.1% (n=16) participants suffer from LBP for > 1 months but less than 6 months, 24.6% (n=14) participants suffer from LBP for 7 months to 1year and 42.1% (n=24) participants had been suffering from LBP for more than 1 year.
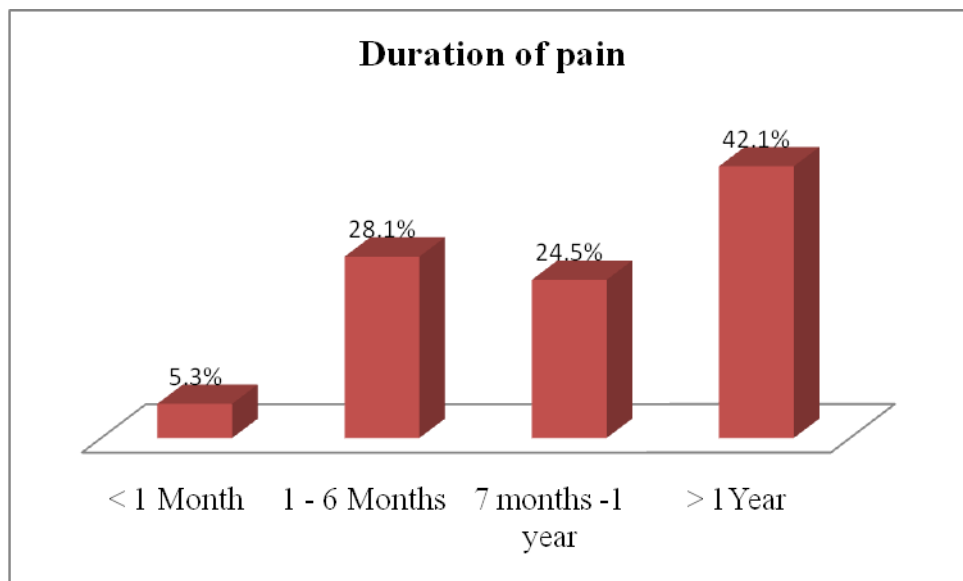
Figure - 8: Duration of LBP

Behavior of LBP

In this study the persons who had been suffering from LBP, 36% (n=27) felt intermittent LBP, 40% (n=30) felt constant LBP and 24% (n=18) participants were not felt any LBP.
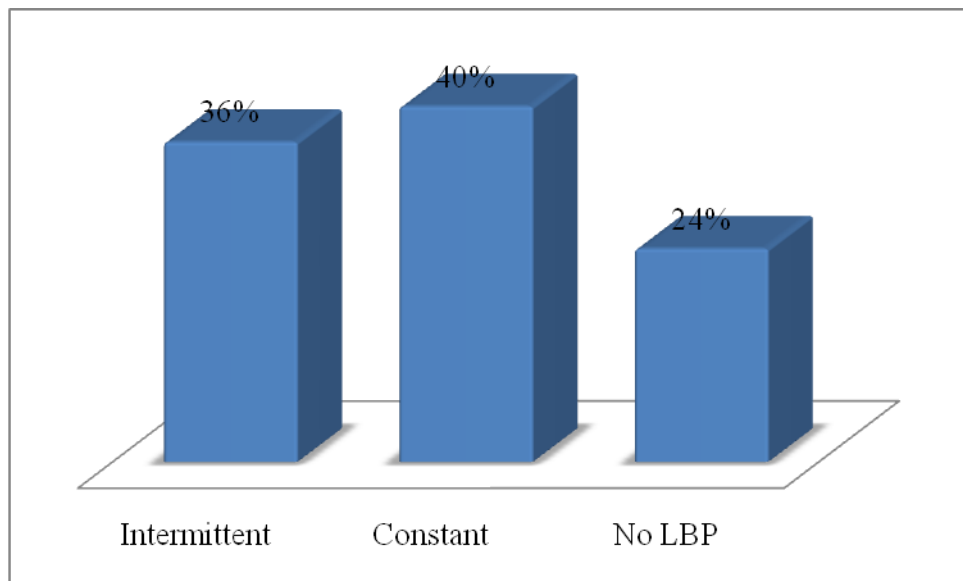
Figure - 9: Behavior of pain

Posture that increase the LBP

Among the 57 participants who suffered from LBP, in 10.5% (n=6) participants increased LBP during standing, in 14% (n=8) participants increased LBP during long time sitting, in 5.3% (n=3) participants increased LBP during lying posture, in 35.1% (n=20) participants increased LBP during bending posture and 35.1% (n=20) participants increased LBP during walking.
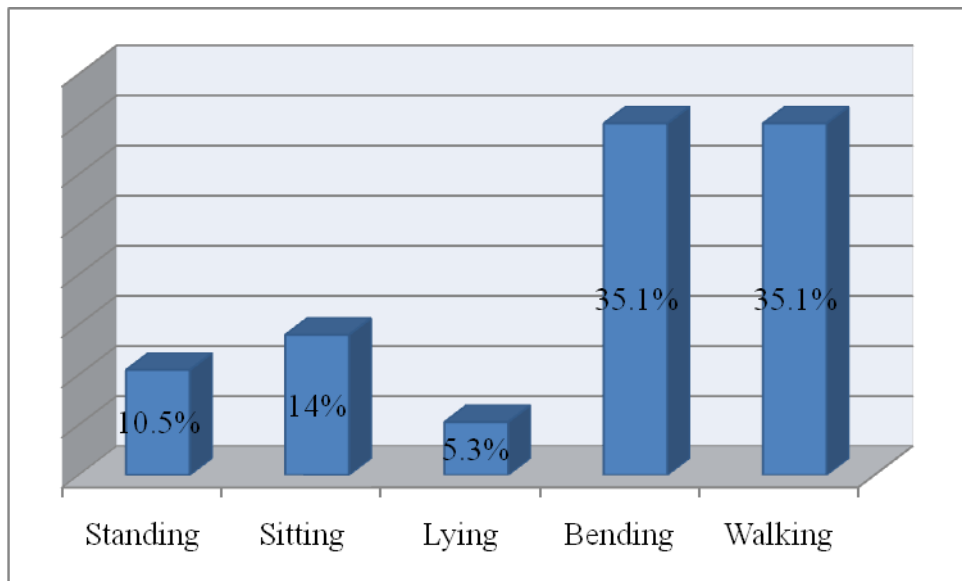
Figure - 10: Posture that increase LBP

Posture that relives LBP

Who suffered from LBP, 3.5% (n=2) participants felt better from LBP in standing, 19.3% (n=11) participants felt better in sitting posture, 5.3% (n=3) participants felt in walking position when they felt LBP and most of 71.9% (n=41) participants relived from LBP when they turn to the lying posture.
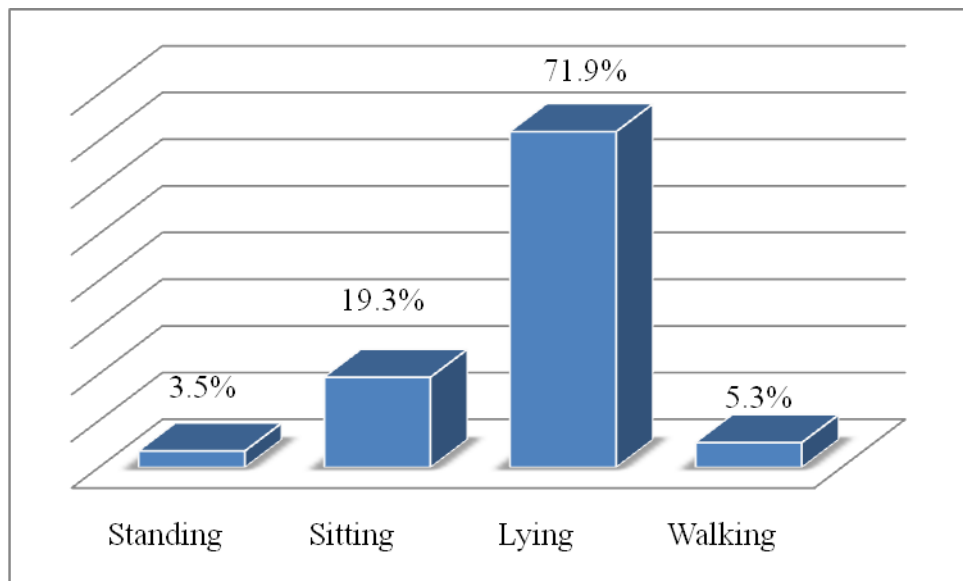
Figure - 11: Posture that relives LBP

Pain during heavy weight lifting

Among the 75 participants of overweight persons, 13.3% (n=10) participants felt never pain during heavy weight lifting, 17.3% (n=13) participants felt pain sometime, 17.3% (n=13) participants often felt pain during heavy weight lifting, 52% (n=39) participants felt LBP all time during heavy weight lifting.

Pain during heavy weight lifting

LBP	Number (n)	Percentage (%)
Never	10	13.3
Sometime	13	17.3
Often	13	17.3
All time	39	52
Total	**75**	**100**

Table - 5: Pain during heavy weight lifting

Treatment for LBP

Among the affected participants who were suffering from LBP 98.2% (n=56) participants took treatment and remaining 1.8% (n=1) participant did not take any treatment for their LBP. Among the participants who took treatment for their LBP, 15.8% (n=9) affected participants took only medication, 3.55% (n=2) took only physiotherapy, 77.2% (n=44) affected participants took both medication and physiotherapy, 1.75% (n=1) took both medication and surgical treatment.

Treatment for LBP:

Treatment	Number	Percentage(%)
Medication	9	15.8
Physiotherapy	2	3.5
Medication & physiotherapy	44	77.2
Medication & surgery	1	1.75
No treatment	1	1.75
Total	**57**	**100**

Table - 6: Treatment for LBP

The aim of the study was to identify the prevalence of LBP among the overweight person. In this study it was used a cross sectional study, there were 75 participants of both male and female to find out the prevalence of LBP among the overweight and obese persons.The result of this study showed that 76% participants suffered from LBP in CRP during the course of the study. In United State prevalence of LBP was *65%* (Wright et al., 2010). According to Tobin et al. (2009) the 1 year prevalence of LBP was 38%.

In this study it was found that the persons who were suffering from LBP there almost 60 % were male from total male and about 70 % were female from total female participants. 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 33.3%, 31-40 aged were 21.4%, 41-50 aged were 20 % and 51- 65 aged were 25.3%. Ullah et al. (2006) fond 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 aged group. According to the Horvath et al. (2010) in Hungarian population average age for suffering LBP were 46.71 years aged but researcher found that in his study average age of participants who suffering from LBP were 41.61 years aged.

Study found that most of the participants lived in rural area 63.2% who were suffering from LBP and rest of the affected participants lived in urban area. One study showed that 32.6% of total population who were lived in rural area suffered from LBP in Iran (Biglarian et al., 2012).

In this study it was found that the participants who were suffering from LBP most of them were housewives 36%, 18.7% were service holder, 17.3% were business men, 14.7% were students. Other study found that the persons with LBP most of participant

were housewives 23.42%, office worker were 17.31%, students were 17.92% and businessmen were 6.72% (Ullah et al., 2006).

In this study the investigator found that the persons with suffering from LBP majority of participants completed their secondary level education (28.1%) , 22,8% participants completed S.S.C. level and 19.3% affected participants completed their graduation level and most affected group were secondary passed. 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 this study it was found that 40% participants felt constant LBP and 36% felt intermittent pain LBP. Among them most affected behavior of pain were constant but Tobin et al. (2009) found that most 32% pain were intermittent.

In this study it was found that the participants who were suffering from LBP, among them 33.4% participants suffering pain for ≤ 6 months, 24.6% participants felt pain since 7- 12 months and 42.1% participants felt LBP since more than 1 year. Study showed that most of the participants were suffering from chronic LBP.

The study showed that 54.4% participants had central low back pain and 45.6% participants had radiated low back pain. In this study it was found that the participants who were suffering from LBP during bending and walking posture increase their LBP in 35.1% cases and sometimes they felt increased LBP in standing, sitting and lying posture and most of them felt better in lying posture (70.9%), 19.3% in sitting posture.

In this study it was found that 52% overweight and obese persons felt LBP all time during heavy weight lifting, 17.3% felt pain sometimes and 17.3% felt LBP often during heavy weight lifting.

CHAPTER – VI: CONCLUSION AND RECOMMENDATION

6.1 Conclusion

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. Overweight is the growing public health concern. Overweight is the risk factor to developing LBP. Like other countries, Bangladesh has huge amount of overweight person who are in risk to develop LBP and other associated disease.

Study showed that the 76% overweight and obese persons were suffering from low back pain and more sufferer were rural (63.2%) people and their educational level most of them were poor educational level.

Study showed that the overweight person who suffer from LBP, most of them felt pain for more than 1year (42.1%), most of LBP were constant (40%), most of LBP increase with bending (35.1%) and walking (35.1%) and decrease with lying (71.9%) and sitting (19.3%)

Study showed that most of overweight person (52%) felt LBP during heavy weight lifting.

6.2 Recommendations

The aim of the study was to find out the prevalence of LBP among the overweight 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 75 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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সম্মতি পত্র

(অংশগ্রহনকারীকে পড়ে শোনাতে হবে)

আসসালামুআলাইকুম/ নমস্কার,

আমার নাম দোস্ত মোহাম্মাদ, আমি এই গবেষণা প্রকল্পটি বাংলাদেশ হেলথ প্রফেশনস ইনস্টিটিউট (বিআইচপিআই)-এ পরিচালনা করছি যা আমার ৪র্থ বর্ষ বি এস সি ইন ফিজিওথেরাপি কোর্সের অধিভূক্ত । আমার গবেষনার শিরোনাম হল " অতিরিক্ত ওজন এবং স্থুলকায় ব্যক্তির কোমর ব্যাথার হার"। আমি আপনাকে কিছু ব্যক্তিগত এবং কোমর ব্যাথা সম্পর্কে প্রশ্ন করতে চাই । এতে আনুমানিক ১০-১৫ মিনিট লাগবে।

আমি আপনাকে অবগতি করছি যে, এটা আমার অধ্যয়নের অংশ এবং অন্যকোন উদ্দেশ্যে ব্যবহৃত হবে না। এই গবেষনা আপনার বর্তমান ও ভবিষ্যত চিকিৎসায় কোন প্রকার প্রভাব ফেলবেনা। আপনি যে সব তথ্য প্রধান করবেন তার গোপনীয়তা বজায় থাকবে এবং আপনার প্রতিবেদনের ঘটনা প্রবাহে এটা নিশ্চিত করা হবে যে এই তথ্যের উৎস অপ্রকাশিত থাকবে।

এই অধ্যয়নে আপনার অংশগ্রহন সেচ্ছাপ্রনোদীত এবং আপনি যে কোন সময় এই অধ্যয়ন থেকে কোন নেতিবাচক ফলাফল ছাড়াই নিজেকে প্রত্যাহার করতে পারবেন। এছাড়াও কোন নির্দিষ্ট প্রশ্ন অপছন্দ হলে উত্তর না দেয়ার এবং সাক্ষাতকারের সময় কোন উত্তর না দিতে চাওয়ার অধিকারও আপনার আছে।

এই অধ্যয়নে অংশগ্রহনকারী হিসেবে যদি আপনার কোন প্রশ্ন থাকে তাহলে আপনি আমাকে অথবা/ এবং মোহাম্মদ আনোয়ার হোসেন, সহযোগী অধ্যপক, ফিজিওথেরাপি বিভাগ, সিআরপি,সাভার,ঢাকা-১৩৪৩-তে যোগাযোগ করতে পারেন।

আমি আপনার অনুমতি নিয়ে এই সাক্ষাৎকার শুরু করতে যাচ্ছি।

হ্যাঁ.........

না ....

১। অংশগ্রহণকারীর সাক্ষর...........................তারিখঃ

২। সাক্ষাৎগ্রহনকারীর সাক্ষর..........................তারিখঃ

CONSENT FORM

(Please read out to the participants)

Assalamualaikum/Namasker, my name is Dosta Mohammad, I am conducting this study for a Bsc in Physiotherapy project study dissertation titled "**Prevalence of low back pain among the overweight person**" 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/orMohammad Anwar Hossain, Associate 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 _____

Signature of the Interviewer _____

প্রশ্নাবলী

১। ব্যক্তিগত তথ্যাবলী   পরিচিতি নং............

১.১। অংশগ্রহনকারীর নামঃ

১.২।ঠিকানাঃ

     গ্রাম/বাসা নম্বর.......................................

     পোস্ট অফিস.......................................

     থানা............................

     জেলা..........................

১.৩। মোবাইল নম্বরঃ

১.৪ সাক্ষাৎকার গ্রহনের তারিখ..........................

২। আর্থ-সামাজিক তথ্যাবলী   পরিচিতি নং............

২.১। বয়সঃ..................বৎসর।

২.২। লিঙ্গঃ

১= পুরুষ   ২= মহিলা

২.৩ পেশাঃ

         ১= কৃষক   ২= দিন মজুর   ৩=চাকরিজীবী

৪=গার্মেন্টস/কারখানা শ্রমিক   ৫= গাড়ি চালক   ৬= রিক্সা চাল

৭= ব্যবসায়ী   ৮= বেকার   ৯= গৃহিণী

১০= শিক্ষক   ১১=ছাত্র   ১২=অন্যান্য.................

২.৪। পরিবারের মাসিক আয়ঃ............................টাকা।

২.৫ বৈবাহিক অবস্থাঃ

         ১= অবিবাহিত   ২= বিবাহিত   ৩= বিধবা

৪= বিপত্নীক   ৫= তালাক প্রাপ্ত   ৬=আলাদা থাকেন

২.৬ পরিবারের ধরনঃ

         ১= একক পরিবার   ২= যৌথ পরিবার

২.৭। বসবাসের এলাকাঃ

         ১= গ্রাম   ২= শহর

২.৮। শিক্ষাগত যোগ্যতাঃ

         ১= নিরক্ষর   ২= স্বাক্ষর করতে পারে   ৩=প্রাথমিক

৪= মাধ্যমিক   ৫= এস এস সি   ৬= এইচ এস সি

৭= স্নাতক   ৮= স্নাতকোত্তর

২.৯। উচ্চতাঃ..................ফুট/ ....মিটার

২.১০। ওজনঃ.................কেজি

২.১১। শরীরের ধরনঃ (**BMI** স্কেল অনুযায়ী)

১= কম ওজন   ২= গ্রহণযোগ্য

৩= অতিরিক্ত ওজন   ৪=স্থূলকায়

৩। অংশগ্রহণকারী সম্পর্কিত তথ্যাবলীঃ

৩.১। আপনার কি কোমর ব্যাথা আসে?

       ১= হ্যাঁ   ২= না

৩.২। ব্যাথার তীব্রতা কেমন?

০   ১০

       ১= ১-৪   ২= ৫-৭

৩= ৮-১০   ৪= প্রযোজ্য নয়।

৩.৩। ব্যাথার প্রকৃত স্থানঃ

       ১= কোমরের মাজখানে   ২= উভয় নিতম্বে

       ৩= ব্যাথা হাটুর উপর পর্যন্ত   ৪= ব্যাথা হাটুর নিচ পর্যন্ত

       ৫= প্রযোজ্য নয়।

৩.৪। ব্যাথার স্থায়িত্যকালঃ

       ১= ১মাসের কম   ২= ১- ৬ মাস   ৩= ৭-১২ মাস

       ৪= ২ থেকে ৩ বৎসর বা তার বেশি   ৫=প্রযোজ্য নয়।

৩.৫। ব্যাথার ধরনঃ

       ১= মাঝে মাঝে   ২= থেমে থেমে

       ৩= সব সময়   ৪= প্রযোজ্য নয়।

৩.৬। কাজের সময় কিভাবে থাকেন?

       ১= বসে   ২= দাঁড়িয়ে   ৩= সামনে ঝুঁকে
       ৪= উঠ-বস করে

৩.৭। কখন ব্যাথা বাড়ে?

       ১= দাঁড়িয়ে থাকলে   ২= বসে থাকলে   ৩= শুয়ে থাকলে

       ৪= সামনে ঝুঁকলে   ৫= হাটলে   ৬= প্রযোজ্য নয়

৩.৮। কখন ব্যাথা কমে?

    ১= দাঁড়িয়ে থাকলে   ২= বসে থাকলে   ৩= শুয়ে থাকলে

    ৪= সামনে ঝুঁকলে   ৫= হাটলে   ৬= প্রযোজ্য নয়

৩.৯। ভারি কিছু তোললে কি বাথ্যা অনুভব করেন?

    ১= কখনো না   ২= মাঝে মাঝে   ৩= কখনো কখনো   8= সব সময়

৩.১০। অবসরে আপনি কি করেন?

    ১= বাগান করেন   ২= টিভি দেখেন   ৩= বই পরেন

    ৪= ঘুমান   ৫= গল্প করেন   ৬= অন্যান্য ......

৩.১১। আপনি আপনার কোমরে কখনো আঘাত পেয়েছেন?

    ১= হ্যাঁ   ২= না।

    যদি পেয়ে থাকেন তবে কি ধরনের আঘাত?

    ১= মাটিতে পরে গেছেন   ২= সরাসরি আঘাত পেয়েছেন

    ৪= সড়ক দুর্ঘটনা   ৫= টান জনিত আঘাত

৩.১২। আপনি কি কখনো কোমর ব্যাথার জন্য চিকিৎসা নিয়েছেন ?

    ১= হ্যাঁ   ২= না।

    যদি নিয়ে থাকেন তবে কি ধরনের চিকিৎসা নিয়েছেন?

    ১= ওষুধ   ২= ফিজিওথেরাপি   ৩= সার্জারি

    ৪= কবিরাজী   ৫= অন্যান্য.................

৩.১৩। আপনি কি কখন ফিজিওথেরাপি চিকিৎসা নিয়েছেন?

    ১= হ্যাঁ   ২= না।

    যদি নিয়ে থাকেন তবে কি ধরনের ফিজিওথেরাপি নিয়েছেন?

    ১= পশ্চার ঠিক করা   ২= তড়িৎ চিকিৎসা

    ৩= ম্যানুয়াল চিকিৎসা   ৪= টানা দেওয়া

    ৫= অন্যান্য....................

English questionnaire

Title: Prevalence of low back pain among the overweight person.

Personal details   Code no :

1.1.   Name of participant

1.2.   Address:

Village/house no…………………………..

 Post office…………………………………

Thana…………………………………

 District………………………………….

1.3.   Contact number:

1.4.   Date of interview:DD/MM/YY………………………

2. Socio demographic information: Code no:

2.1. Age……………………..years

2.2. Sex:

1= male   2= female

2.3. Occupation :

1= Farmer   2= Day laborer   3= Service holder   4= Garments/ Factory worker

5= Driver   6= Rickshaw puller

7= Businessman   8= Unemployed9= Housewife   10= Teacher   11= Student

11= Other (Specify)…………………..

2.4. Monthly family income:…………………..taka

2.5. Marital status:

     1= Married   2= Unmarried   3 = Widow

4 = Divorce   5= Single

2.6. Family type:

     1= Nuclear family   2= Extended family

2.7. Living area:

1= Rural   2= Urban

2.8. Educational level:

1 = Illiterate   2=literate   3= Primary   4=Secondary

     5 = S.S.C   6=H.S.C.   7= Graduate   8= Post Graduate

2.9. Height in metre :……………… (1 foot = .3048 metre)

2.10. Weight in Kg :………………

2.11. Body type according to BMI Scale:

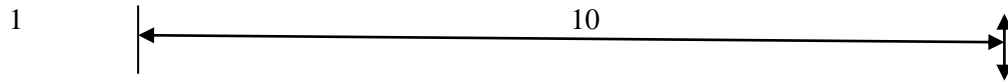1= Underweight(BMI<20)   2 = Acceptable (BMI $\geq$ 20 to < 25)

     3 = Overweight (BMI$\geq$ 25 to $\leq$ 30)   4 = Obese (> 30).

3. Participant related information

3.1. Do you feel LBP ?

1= Yes   2 = No

3.2. Severity of pain in VAS Scale:

1   10

1= 1 – 4   2 = 5 – 7   3 = 8 – 10   4 = Not applicable

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

3.3. Duration of pain: ……..

1= < 1 month   2 = 1 – 6 months

3= 7 –12 Months   4= 2 ≥3 years

5= Not applicable

3.4. the behavior of your pain :

1= Occasional   2= Intermittent   3 = Constant

4 = Not applicable

3.5. Posture during the activity :

1= Sitting   2 = Standing   3 = Bending

4= Squatting

3.6. Which posture make your pain worse?

1= Standing   2= Sitting   3= Lying   4= Bending

5= Walking   6= Not applicable

3.7. Which posture relives the Pain?

1= Standing   2= Sitting   3= Lying   4= Bending

5= Walking   6= Not applicable

3.8. Do you feel any pain during heavy weight lifting ?

1= Never   2 = Sometime   3= Often   4= All time

3.9. What are you doing in leisure period ?

1= Gardening   2 = Watching TV   3 = Reading

4 = Sleeping 5= Gossiping

6 = Others (specify……………)

3.10. Have you get any trauma in your back ?

1= Yes   2 = No

If yes what type of trauma?

1= Fall on the ground   2= Direct trauma   3= RTA

4= Stretch injury

3.11. Have you ever taken any treatment for LBP ?

1 = Yes   2 = No

If yes what kind of treatment did you receive ?

1 = Medication   2 = Physiotherapy   3 = Surgery

4 = Traditional   5 = Others (Specify ………….)

3.12. Have you ever taken Physiotherapy treatment?

1= Yes   2= No

If yes treatment includes:

1= Postural correction   2= Electro therapy   3= Manual therapy

4= Traction   5= Others (specify ……………..)

Permission Letter

To

The Head of the Department,

Physiotherapy Department,

Center for the Rehabilitation of the Paralyzed (CRP)

Savar, Dhaka-1343

Subject: Permission to collect data to conduct a research study.

Sir,

I respectfully to state that I am a student of 4th year B.Sc in physiotherapy at Bangladesh Health Professions Institute(B.H.P.I). In 4th year we have to do a research project and I have chosen a title that is "Prevalence of Low Back Pain among the overweight and obese person" and my supervisor is Mohammad Anwar Hossain, Assistant professor, department of Physiotherapy. I would like to collect data at physiotherapy department of CRP in Saver. Data will be collected within 8.00 a.m. to 5.00 p.m.

I therefore pray and hope that you would be kind enough to give me permission to do this study successfully in your department.

Yours faithfully

Dosta Mohammad

Dosta Mohammad

Bachelor of Science in Physiotherapy (B.Sc PT)

CRP, Savar,Dhaka

Date: 18.03.2013.