

**PREVALANCE OF LOW BACK PAIN AMONG THE BANK
WORKERS AT SOME SELECTED BANKS IN SAVAR**

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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

PREVALANCE OF LOW BACK PAIN AMONG THE BANK WORKERS AT SOME SELECTED BANKS IN SAVAR

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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 concept of my supervisor.

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Abbreviation

- BHPI:** Bangladesh Health Professions Institute
- CRP:** Centre for the Rehabilitation of the Paralyzed.
- LBP:** Low Back Pain
- SPSS:** Statistical Package for the Social Sciences
- VAS:** Visual Analogue Scale
- WHO:** World Health Organization

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Abstract

Purpose: Prevalence of low back pain among the bank workers at some selected banks in Savar. *Objectives:* To measure the severity of pain according to vas scale, to identify the prevalence of LBP among the bank workers, to determine the primary risk factors of low back pain among the bank workers and to inspect the socio-demographic information among the bank workers. *Methodology:* A quantitative (cross sectional) research model in the form of a prospective type survey design is carried out in this study. Conveniently 100 participants among the bank workers were collected from various banks of 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 mixed type questionnaire 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 findings of the study provide a baseline of information about prevalence of Back pain among the ban workers. In percentage 44% have suffered from back pain and male (81.82%) are more vulnerable than female (18.18%).The most affected age range 31-50years of age (68.18%). This age group is the largest proportion of the work force and with this part of the population affected to such a large degree it could affect the productivity of the company in a negative manner. The study revealed that the prevalence of back pain is most frequent who had job experience of 1-8 years 36%, followed by 21% were 9-16 years, 18% were 17-24 years, and 25% were 25-32 years. *Conclusion:* Prevention of LBP is beneficial for workers, employers, and society. To prevent work relate LBP should focus on working conditions rather than individual life style , greater attention to other risk factors such as history of back injury and perception of health status. Bankers should be educated on ergonomics, posture, taking break in between work and relaxation as this will ultimately improve job satisfaction and performance.

Key word: Low back pain, Prevalence, Bank workers.

1.1 Background

Low back pain is the most prevalent musculoskeletal condition and the most common cause of disability in developed nations (Woolf & Pfleger, 2011). The lifetime prevalence of LBP (at least one episode of LBP in a lifetime) in developed countries is reported to be up to 85% (Walker, 2000). LBP results in significant levels of disability, producing significant restrictions on usual activity and participation, such as an inability to work. Furthermore, the economic, societal and public health effects of LBP appear to be increasing (Katz, 2006).

Shiel (2007) explained that low back pain is pain and stiffness in the lower back. It is one of the most common reasons people miss work. Anderson (1996) claimed that low back pain is usually caused when alignment or muscle holding a vertebra in its proper position is strained. According to WHO LBP is responsible for a major portion of people staying away from work or visiting a medical practitioner. It is estimated that 70% to 80% of the world's population has at least one episode of back pain in their lifetime. This condition may cause a decrease in the quality of life of individuals, as well as deterioration in physical activity. Generally incidents of back pain most commonly occur in between ages 25 and 50 years (Charoenchai et al, 2006).

Low back pain will affect 75-85% of all people at some point during their lifetime. Approximately 50% of them will have a recurrence within a year. Approximately 90% improve without surgery. Approximately 7.4% of patients with low back pain account for 75% of the money spent on low back pain. The vast majority of acute low back pain is the result of injury such as sprain or strain, while the cause of chronic low back pain is multi-factorial (Marius, 2003). Chronic low back pain is defined as pain of more than three months duration. It occurs in 2-8% of those who experience low back pain. Low back pain (LBP) is the leading cause of disability and inability to work, and expected to affect up to 90% of people at some point in their lives (Ehrlich, 2003). Another study has attempted to identify and evaluate the contribution of different demographic, physical, socioeconomic, psychological, and occupational

factors to the development of spinal pain. It is interesting that 37% of LBP worldwide are attributable to occupational risk factors, which represent many potentially preventable sources of pain (Asdrubal et al, 2005).

LBP is a multi factorial disorder which involves most active individuals of the society and leads to many social and economic problems. Many risk factors effect incidence and durability of LBP, some of which can be changeable and reversible (sadigi et al, 2008). Low back pain (LBP) continues to be a significant healthcare problem in developed societies (Bishop A, Foster NE, 2005). LBP affects 80% of adults during their lifetime and is a major-medical condition that causes disability and expenditure of healthcare dollars (Amit et al, 2006). Treatment costs are raising at least 7%peryear in the United States (Straus, 2002) and have a total impact in excess of US\$170 billion (Bishop & Foster, 2005). The direct cost of LBP is \$33 billion to \$55 billion per year, and the indirect costs include lost work days and lost productivity.

Low back pain (LBP) and neck pain will affect more than 80% of the population at some point during their life time and has been found to be the most common cause of disability in young adults in the United States of America (Papageorgoiu et al, 1995).

LBP is also the major cause of suffering and the second most common reason for patients to visit primary health care providers. It is estimated that 5.4 million Americans are disabled by LBP each year and that it is the second most common cause of sick leave (Maria et al, 2007). Furthermore it has been found in many literature studies, that 70-80% of the population, in the USA, will be affected by LBP at some or other time in their lives. LBP can present with any number of different manifestations, at any time, which could affect these people. Thus it can be seen that the problem of LBP has enormous implications and effects on the medical, social and economic aspects in any country (Frymoyer, 1998).

Low back pain (LBP) is an important occupational health problem in Canada and in most industrialized countries. In 2002, estimates of the cost of back pain in Quebec ranged from \$1.9 to \$3.9 billion (Tissot et al, 2004). Physical work demands that have been clearly associated with LBP in the scientific literature

include heavy physical work, manual materials handling, frequent bending and twisting and whole body vibration (Tissot et al, 2009). Systematic reviews of epidemiologic studies have not been able to support a relationship of LBP with prolonged standing or walking or with prolonged sitting (Chen et al, 2009). Low back pain can occur if any job involves lifting and carrying heavy objects, or if any one spends a lot of time sitting or standing in one position or bending over. It can be caused by a fall or unusually strenuous exercise (Peter, 2000). Back pain can be brought on by the tension and stress in some people. It can even be brought on by violent sneezing or coughing (sadigi et al, 2008). These inconsistent results could arise from a lack of precision in defining sitting and standing postures. In fact, sitting and standing postures at work vary as to duration and freedom to alternate postures, and standing postures vary as to mobility (Tissot et al, 2005). Some studies that examined the physiological effects of working postures have combined sitting withstanding in a category called 'sedentary' or 'static' postures.

1.2 Rationale

Although some studies have dealt with low back pain among office workers in other countries, the exact nature and prevalence of this important health problem has not yet investigate before in Bangladesh. The aim of the study to find out the prevalence of LBP among the bank workers in our country and Identify the impact of demographic, occupational, psychological and social factors on them and from this study bankers may able to identify the cause, that can control or minimize the risk of LBP. Bankers may provide proper recommendation for every single risk which help for them.

It also helps to establish a guide line for space, equipment, furniture and environmental condition which are mandatory in the design of working place of the bankers. Literature showed that prolong static posture like sitting, standing, bending, are associated with low back pain. This study helps to aware the lacking area specially their posture before doing any activities. This study was formulated to fill the gap of knowledge in this area.

The study helps to identify the risk factors of banks which are harmful for the bank workers and in future a guide line may develop which help to teach and give proper education about the posture and preventive methods of low back pain, when the researcher collect the data he must introduce himself to the participants as a physiotherapist and explain the role of physiotherapy in health sector as a result , at least the participants of this study get the information about physiotherapy profession thus it spread out hope it is very helpful in professional development which is necessary for the current situation.

1.3 Research question

- What is the prevalence of low back pain among the bank workers?

1.4 Objective

General objectives

- To identify the prevalence of LBP among the bank workers.

Specific objectives

- To inspect the socio-demographic information among the bank workers.
- To measure the severity of pain according to VAS scale.
- To find out the length of job experience of the participants who suffered low back pain.
- To explore the gender distribution among the sufferers.
- To determine the primary risk factors of low back pain among the bank workers.
- To evaluate the outcome of pain after receiving treatment.

1.5 List of Variables
Conceptual Framework

Independent variable

AGE

SEX

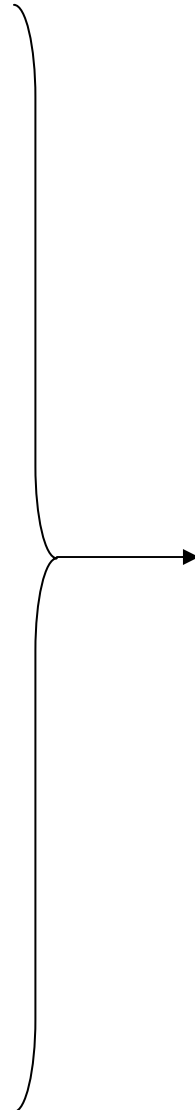
**TRAUMA IN THE
BACK**

JOB EXPERIENCE

**STRESSFUL
POSITIONS**

Dependent variable

LBP



1.6 Operational definition

Prevalence

The total number of cases of a disease in a given population at a given time. The prevalence of low back pain among the bank workers is determined by number of bank workers affected by LBP per hundred bank workers in the study.

Low back pain

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

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). Medical term used to describe low back pain is PLID (prolapsed lumbar intervertebral disc), disc lesion, spondylolisthesis, spondylosis, and degenerative disc diseases (Peter, 2000).

According to the anatomical view, the term LBP refers to pain in the lumbosacral area of the spine encompassing the distance from the 1st lumbar vertebrae to the 1st sacral vertebra. This is the area of the spine where the lordotic curve forms. The most frequent site of LBP is in the 4th and 5th lumbar segment (kravitz & Andrews, 1984).Pain in the low back often referring into the hip, buttock or one leg. The cause may be muscle strains or trigger points, instability due to weak postural muscles, hypo mobile spinal facet joints, or degeneration or herniation of spinal disks (Anderson, 1996). Kelsey et al, (1990) expressed that LBP is common throughout the adults years in men and women, first episodes most frequently occur among people in their 20s and 30s. Pain in the lower back area that can relate to problems with the lumbar spine, the discs between the vertebrae, the ligaments around the spine and discs, the spinal cord and nerves, muscles of the low back, internal organs of the pelvis and abdomen, or the skin covering the lumbar area (Ostgaard, 1991). Low back pain is a common musculoskeletal disorder affecting 80% of people at some point in their lives. In the United States it is the most common cause of job-related disability, a leading contributor to missed work, and the second most common neurological ailment - only headache is more common(Harris et al, 1990). It can be either acute, sub-acute or chronic in duration. With conservative measures, the symptoms of low back pain typically show significant improvement within a few weeks from onset. Low back pain which are often soft tissue injuries occur when there is a mismatch between the physical requirements of the job and the physical capacity of the human body (Ehrlich, 2003).

The five most common pain producing structures of LBP are posterior longitudinal ligament, interspinous ligament, spinal nerve roots, facet joints, deep muscles. The structures do not fully account for the pain experienced by many chronic low back pain sufferers (Suhaimi & Zahra, 2009).

LBP can be categorized by the duration of symptoms as: acute LBP (0-6 weeks); sub acute LBP (7-12 weeks); chronic LBP (more than 12 weeks) (Chou, 2007). LBP is also classified according to etiology. Mechanical or nonspecific LBP has no serious underlying pathology or nerve root compression. A century of intense study has produced no clear understanding of common low back pain. Secondary LBP occurring in few patients is associated with underlying pathology. Metastatic cancer, osteomyelitis, and epidural abscess account for back pain patients. The most common neurologic impairment associated with back pain is herniated disc, and 95% of disc herniation occur at the lowest two lumbar intervertebral levels (European Agency for safety and health at work, 1993). The majority of lower back pain stems from benign musculoskeletal problems, and are referred to as non specific low back pain; this type may be due to muscle or soft tissue sprain or strain particularly in instances where pain arose suddenly during physical loading of the back, with the pain lateral to the spine. Over 99% of back pain instances fall within this category.

Sommerich et al, 1993 showed that low back pain can occur as results from trauma, osteoporotic fractures, infections, neoplasm's, and other mechanical derangements such causes can be identified and must be dealt with appropriately. In the vast majority of instances the cause of low back pain is obscure or nebulous, and these cases are the focus of concern for WHO. Mechanical pain (80-90%) occurs when the joint between two bones placed in opposition .when surrounding ligaments and other soft tissues are over stretched the patient will initially feel major discomfort only but as the time passes pain will eventually develop (Mckenzie, 1995). Mechanical LBP classified as in the three relatively simple categories postural syndrome, dysfunctional syndrome, and derangement syndrome (Mckenzie, 1995).

Postural syndrome refers to the pain that occurs from the mechanical stress when a person maintains a faulty posture for a long period. This occurs most commonly when poor sitting or standing postures are adopted. There were no abnormalities in the muscles strength and flexibility, but if faulty posture continues, strength and flexibility imbalance will eventually develop. Here no pathology, no movement loss, no objective signs in this syndrome (Mckenzie, 1995).The dysfunction syndrome from the postural syndrome in that adoptive shortening and resulting loss of mobility causes pain prematurely that is before achievement of full normal end range of movement. The causes may be prolonged poor postural habits or it may be a result of contracture and adhesions formed during the healing of tissues after trauma or derangement (Mckenzie, 1995).The derangement syndrome occurred by mechanical deformation of tissues as a result of anatomical disruption, displacement within the intervertebral disc. The derangement syndrome is usually characterized by constant pain, but intermittent pain may occur depending on size and location of the derangement. There is a partial loss of movement, some movements being full range and others partially and completely blocked. The deformities in kyphosis and scoliosis may occur of this syndrome in the acute stage (McKenzie, 1995).

The mechanical causes of LBP are Apophyseal osteoarthritis, Diffuse idiopathic skeletal hyperostosis, Degenerative discs, Scheuermann's kyphosis, Spinal disc herniation ("slipped disc"), Thoracic or lumbar spinal stenosis, Spondylolisthesis and other congenital abnormalities, Fractures, Sacroiliac Joint Dysfunction, Leg length difference, Restricted hip motion, Misaligned pelvis-pelvic obliquity, anteversion or retroversion, Abnormal Foot pronation (Shiel, 2007) .

The Inflammatory causes of low back pain such as Seronegative spondylarthritides (e.g. ankylosing spondylitis) Rheumatoid arthritis, Infection - epidural abscess or osteomyelitis, Sacroiliitis. The neoplastic causes are bone tumors (primary or metastatic), Intradural spinal tumors. The metabolic causes are Osteoporotic fractures, Osteomalacia, ochronosi, and Chondrocalcinosis. Others causes are Psychosomatic (Tension myositis syndrome), Paget's disease (Shiel, 2007).The lumbar region in regards to the rest of the spine. The lumbar region (or lower back region) is made up of five vertebrae (L1-L5). In between

these vertebrae lie fibro-cartilage discs (intervertebral discs), which act as cushions, preventing the vertebrae from rubbing together while at the same time protecting the spinal cord. Nerves stem from the spinal cord through foramina within the vertebrae, providing muscles with sensations and motor associated messages. Stability of the spine is provided through ligaments and muscles of the back, lower back and abdomen. Small joints which prevent, as well as direct, motion of the spine are called facet joints (Chen, 2009). Causes of lower back pain are varied. Most cases are believed to be due to a sprain or strain in the muscles and soft tissues of the back . Over activity of the muscles of the back can lead to an injured or torn ligament in the back which in turn leads to pain. An injury can also occur to one of the intervertebral discs (disc tear, disc herniation). Due to aging, discs begin to diminish and shrink in size, resulting in vertebrae and facet joints rubbing against one another. Ligament and joint functionality also diminishes as one ages, leading to spondylolisthesis, which causes the vertebrae to move much more than they should. Pain is also generated through lumbar spinal stenosis, sciatica and scoliosis. At the lowest end of the spine, some patients may have tailbone pain (also called coccyx pain or coccydynia). Others may have pain from their sacroiliac joint, where the spinal column attaches to the pelvis, called sacroiliac joint dysfunction which may be responsible for 22.6% of low back pain (Priyanga,2011). Physical causes may include osteoarthritis, rheumatoid arthritis, degeneration of the discs between the vertebrae or a spinal disc herniation, a vertebral fracture (such as from osteoporosis), or rarely, an infection or tumor. In the vast majority of cases, no noteworthy or serious cause is ever identified. If the pain resolves after a few weeks, intensive testing is not indicated (Atlas, 2010).

There are several risk factors associated with LBP. Growing evidence shows that low back pain starts early in life between 8-10 years (Sommerich, 1993). Low back pain affects men & women in their best productive years, with the peak frequency of symptoms occurring in the age range of 35-55. In his study confirmed that LBP prevalence is significant as early as age 12-14 in both sexes. Klein & colleagues who analyzed workers compensation claims from 16 states, studied the scope of LBP in the workforce. Compensation claims peaked in the 20-24 year old age group for men & 30-

34 years old group for women (Ghaffari et al, 2006). Gender differences vary from country to country. In 1988 the National Health Survey in the USA reported a higher prevalence of back pain in male workers & a study on LBP in Japan showed that the incidence in male workers was about four times greater than in female workers (Carey, 1995). In a representative prevalence study in Germany, seven day back pain prevalence was significantly higher for women (Schneider, 2005).

Obesity influence normal body mechanisms by making it more difficult to sit, stand & walk, & increase the time required to recover from any injury. In obese people the spine must support a larger amount of fat, which may increase the pressure on discs & other structures (Ghaffari et al, 2006). In the workplace Flexion of the spine (trunk) forward or lateral direction is known as bending (Valerie Woods, 2005). Twisting refers to spine rotation or torsion. Awkward postures include non neutral trunk postures (related to bending & twisting) in extreme position or at extreme angles. A study (Charoenchai, 2006) examined the relationship between low back disorder & bending, twisting & awkward postures & found that flexion or lateral bending of the spine & bending or rotation of the spine are considered potential risk factors for LBP. The length of the daily working hours is risk factors for developing musculoskeletal disorders (LBP). Static work posture include position where very little movement occurs, along with cramped or inactive postures that cause static loading on the muscles. This include prolonged standing or sitting & sedentary work (Mckenzie, 1995). During sitting the continuous activity of some type 1 motor units (back) muscle may contribute to the development of fatigue (Ghaffari et al, 2006).

Typically people are treated symptomatically without exact determination of the underlying cause. Only in cases with worrisome signs is diagnostic imaging needed.

X-rays, CT or MRI scans are not required in lower back pain except in the cases where "red flags" are present (Chou et al, 2009) If the pain is of a long duration X-rays may increase patient satisfaction. However routine imaging may be harmful to a person's health and more imaging is associated with higher rates of surgery but no resultant benefit.

The Red flags are: Recent significant trauma, Milder trauma if age is greater than 50 years, Unexplained weight loss, Unexplained fever, Immunosuppression, Previous or current cancer, Intravenous drug use, Osteoporosis, Chronic corticosteroid use, Age greater than 70 years, Focal neurological deficit, Duration greater than 6 weeks (Chou et al, 2009). Work place education on the prevention of LBP may help to reduce the prevalence of this problem. The uses of correct postures during activities of daily living will limit physical strain on the musculo-skeletal system thus reduce the risk of LBP. Prolonged sitting positions including sitting and standing for long hours at work, should be avoided (Omokhodion, 2002).

Maintain correct posture while sitting, standing posture is also important. Learn and maintain how to lift object safely to protect the back. Maintain a healthy weight to avoid excess strain on the lower back. Eat a nutritious diet getting plenty of calcium, phosphorus, vitamin D to prevent osteoporosis, which can lead to compression fracture and LBP. Regular exercise to keep the back healthy and strong. Exercise program that include aerobic conditioning and strengthening exercises can help reduce the recurrence of LBP.

The principle of treatment of LBP are to relieve pain in acute case, restore normal movement in chronic cases and recurrence is to be prevented (Ebnezar, 2003). One of the most common treatments for LBP is physiotherapy. Physical Therapist assess an individual's physical ability to do a specific job or activity and aids in developing a safe return to work program or reduce symptoms. All exercises should be performed slowly and comfortably to avoid injury. When performing strengthening and flexibility exercises, remember to breathe naturally and do NOT hold your breath; exhale during exertion and inhale during relaxation. A program of strengthening, stretching, and aerobic exercises will improve fitness level. Research has shown that people who are physically fit are more resistant to back injuries and pain and recover quicker when they do have injuries than those who are less physically fit (Healthy Back Exercises: Strengthen and Stretch, 2011). For acute cases that are not debilitating, low back pain may be best treated with conservative self-care (Chou et al, 2007) including: application of heat or cold and

continued activity within the limits of the pain, Firm mattresses have demonstrated less effectiveness than medium-firm mattresses (Atlas, 2010).

Engaging in physical activity within the limits of pain aids recovery. Prolonged bed rest (more than 2 days) is considered counterproductive. Even with cases of severe pain, some activity is preferred to prolonged sitting or lying down - excluding movements that would further strain the back.—Structured exercise in acute low back pain has demonstrated neither improvement nor harm (Choi et al, 2010).

Strengthening exercises help increase muscle tone and improve the quality of muscles. Muscle strength and endurance provide energy and a feeling of wellness to help you perform daily, routine activities. Adequate core strength that comes from abdominal and back muscles helps stabilize the spine, allows proper spinal movement, and makes it easier to maintain correct posture. Strong hip and leg muscles are important to perform proper lifting techniques and body mechanics. (Healthy Back Exercises: Strengthen and Stretch, 2011).

Krishnan said these are specific exercises to strengthen the abdominal muscles and low back muscles (erector spinae) to provide the aforementioned 'belt of muscle' around the spine. These exercises typically include: specific abdominal strengthening such as sit-ups, crunches, abdominal machines, & leg rises. Flexibility is the ability to move arms and legs through their full range of motion. Stretching will help improve your flexibility. Adequate flexibility of tissues around the spine and pelvis allows full, normal spinal movement, prevents abnormal force on the joints and decreases the possibility of injury. Stretching also prepares muscles for activity; stretching should be done both before and after each vigorous workout to prevent muscle strain and soreness and to help avoid injuries. When performing flexibility exercises, stretch as far as you can and hold the stretch for 10 seconds and then ease back. Each stretching exercise should be performed slowly in both directions, with no sudden jerking or bouncing. Bouncing is more likely to injure or strain a muscle or joint. (Healthy Back Exercises: Strengthen and Stretch, 2011).

These exercises involve the use of a variety of exercises & many include use of exercise balls, balancing machines or specific stabilizing exercises. The point of dynamic stabilization exercises is to strengthen the secondary muscles of the spine and help support the spine through various ranges of motion. A convincing relation exists between low back pain and decreased muscular endurance. Occupational postural disorders, where prolonged maintenance of a particular posture occurs, were a causal factor to low back pain. Patients with low back pain have decreased levels of muscular endurance in the lumbar extensors. Abdominal muscular endurance in patients with low back pain is less than those in the normal health population. The application of endurance exercises that incorporate the back extensors as well as the abdominal muscles (Kravitz & Andrews, 2011).

Along with specific back exercises, aerobic exercise that increases the heart rate for a sustained period is very beneficial for helping back problems. Aerobic exercise increases the flow of blood and nutrients to back structures which supports healing, and can decrease the stiffness in the back and joints that lead to back pain. It is easier to control weight or lose weight, decreasing the stress placed on the spine structures and joints. An increased production of endorphins after 30 or 40 minutes of exercise can combat pain. These bio-chemicals are the body's natural painkiller (Ostgaard et al, 1991).

It is not known if chiropractic care improves clinical outcomes in those with lower back pain more or less than other possible treatments. A 2004 Cochrane review found that spinal manipulation(SM) was no more or less effective than other commonly used therapies such as pain medication, physical therapy, exercises, back school or the care given by a general practitioner which was supported by a 2006 and 2008 review (Murphy & Volinn, 1999). A 2010 systematic review found that most studies suggest SM achieves equal or superior improvement in pain and function when compared with other commonly used interventions for short, intermediate, and long-term follow-up. In 2007 the American College of Physicians and the American Pain Society jointly recommended that it be considered for people who do not improve with self care options. A 2007 literature synthesis found good evidence supporting SM and mobilization for low back

pain. Ergonomic recommendations for minimizing the risks of back injuries focus on improving working posture and equipment design. These include postural change and use of back support. Alternate between sitting and standing to reduce postural fatigue and maximize postural variety, which helps to reduce static muscle fatigue & LBP.

Use Support when sitting or standing, don't lean forwards or stoop in an unsupported posture for prolonged periods. If you are sitting, sit up straight or recline slightly in a chair with good back support, and use a good footrest if necessary. If you are standing for prolonged periods try to find something to help you lean against.

3.1 Study design

The aim of the study was to find out the prevalence of LBP among the bank workers. For this reason the researcher choose a cross-sectional study design because the cross sectional study is the best way to determine prevalence. This design involves identifying group of people and then collecting the information that researcher requires when they will be use the particular service .The cross sectional study is called prevalence study (Park, 2000) and this can also be used to identify the associations. The most importance of cross-sectional study is it is time consuming and also cheap. A cross sectional study is descriptive study which providing a “snapshot” of the frequency and characteristics of a disease in a population at a particular point in time. This type of data can be used to assess the prevalence of acute or chronic conditions in a population (Depoy & Gitlon, 1998).

3.2 Study site

As this was a survey on prevalence of Low Back Pain among the Bank workers, so the study was conducted in some selected governmental and non- governmental banks of Savar which are Dhaka Bank Ltd, Krishi Bank, Basic Bank Ltd. Dutch Bangla bank Ltd. National Bank Ltd. United commercial bank Ltd, and Janata Bank Ltd.

3.3 Study area

This study was conducted in musculo-skeletal area.

3.4 Study Population

A population refers to the members of a clearly define set or class of people, objects or events that are the focus of the investigation. In this study all desk bank workers are the population for this study.

3.5 Sample of the Study

100 Samples were selected from the population of different bank at Savar, Dhaka in Bangladesh. Sample is a group chosen or obtained from a much larger group of the population. Bailey (1997) claimed that a sample is a subset of the population that has been selected to participate in the project. Sample should represent the population as closely as possible. For survey research it is better to get as many subjects as possible with the consideration of the size of the ideal population (Bowling, 1997).

3.6 Sampling procedure

Samples were selected conveniently from all private and government bank at Savar in Dhaka. There are a lot of bank workers in Bangladesh, from this population 100samples were collected for this study according to the inclusion and Exclusion criteria.

Sampling is an important concept in research Basically it is about how to choose the people who will study or who will participate in research. Finding the appropriate number and type of people take part in study is called sampling (Hicks, 1999).

3.7 Inclusion criteria

- Both male and female were selected who are involved in office work.
- Subjects were selected from private and government bank at Savar in Dhaka.
- All age group of people was selected.

3.8 Exclusion criteria

- History of acute trauma to back, which can produce acute inflammatory reaction.
- Any history of known active infection e.g. TB spine

3.9 Sample size

The actual sample size for this study is more than 267, but as it is an educational research and there is some limitation of time so the researcher took only 100 samples conveniently from the Bank worker.

3.10 Method of data collection

Finding the appropriate number and type of people to take part in the study is called sampling (Hicks, 2000). In this study data was collected by structural and semi structural, mixed type questionnaire. Mixed type questionnaire include both open and close ended questions. The investigator went to the bank workers and take permission if they are interested in this study or not. Firstly, the investigator introduce himself and the research project as well its purpose. Then investigator met with individual subject to find out if they are interested in participating. For data collection, the investigator prepared the questionnaire in Bengali with the possible easiest word. If possible the questionnaire was filled up in the presence of investigator or a date was fixed by the researcher to collect the questionnaire from the recipients. Survey usually, use questionnaires or interviews by which information is gathered (Hicks, 1999).

Hicks (1999) claimed that open ended questions are those which allow respondents free range when supplying their answers. Open ended questions are most useful in dealing with complicated information when slight differences of opinion are important to know (Bailey, 1997). Closed questions allow the respondents only a limited choice of how to answer the questions (Hicks, 1999). In close ended question, it gives respondents an easy way out and would rather force them into a positive or negative answer (Bailey, 1997). For survey research methods, it is one of the most valid approaches for collecting data (Hicks, 1999).

3.11 Questionnaire

Data was collect by using a questionnaire on paper and the questions types was a mixed type of questions. These questions were used to collect nominal and ordinal data for research findings and were setup sequentially. There were questions relating to low back pain among the Bank workers. Questionnaire is a method of collecting information whereby subjects answer a set of questions usually predefined by the researcher (Hicks, 1999). Questionnaire must be kept in short that the respondent will finish it but long enough to obtain the desired information and the question should be sequenced in a logical order that they follow one another (Bailey, 1997). Bowling (1997) claimed that a basic underlying of questionnaire is that researchers and

respondents share the same theoretical frame of reference and interpret the words, phrases and concepts used in the same way.

3.12 Materials used for research project

Questionnaire, Consent form, Pencil and eraser, Page, SPSS (Statistical Package for the Social Sciences) software-16 version to analyze data, Harvard Referencing 2010, Computer.

3.13 Data analysis

The Data analysis was performed numerically coded using an SPSS 16 software program. The presentation was performed in SPSS and Microsoft office Word 2007. Descriptive statistic will be used for data analysis which focused through table, pie chart and bar chart. Microsoft Word Excel was also used to present the data using table, column and pie chart.

3.14 Ethical consideration

Bailey (1997) states that it should be ensured by the investigator that it would maintain the ethical consideration at all aspects of the study. Because it is the crucial part of the all forms of research (Hicks, 1999). At first to conduct this study the research project was submitted to the physiotherapy department, of Bangladesh Health Profession institute and obtained approval. During the course of the study, interested subjects were given consent forms and the purpose of the research and consent forms were explained to them verbally in both English and Bengali. For this study the investigators do not interfere with their patients and clinical practice. When researcher received an approval letter from the ethical committee then data collection was started.

3.15 Informed consent

Before conducting research with the respondents, it is necessary to gain consent from the subjects (Bailey, 1997). For this study interested subjects were given a consent form and the purpose of the research and consent forms were explained to the subject verbally. Researcher told them participants are fully voluntary and they have the right to withdraw at any time, also told them confidentiality would be maintained. Information might be published in any presentations or writing but they would not be identified. The study results might not have any direct effects on them but the members

of Physiotherapy population may be benefited from the study in future. They would not be embarrassed by the study.

3.16 Rigor

During the data collection and data analysis the researcher would always try not to influence the process by his own perspectives, values and biases. No leading questions would not be asked and judgments will be avoided. When conduct the study the researcher took help from the supervisor when needed. The other researchers can use the results in their related area.

3.17 Limitation of the study

Though the expected sample size was 263 for this study but due to resource constrain researcher could manage just 100 samples which is very small to generalize the result for the wider population of the Bank workers. Small number of samples inclusion may be affected by external validity of the study and the results might not be representative of the population. There were no literatures about prevalence of LBP among the bank workers in the perspective of Bangladesh so it is difficult to compare the study with the other research. The researcher could not visit all banks of Savar and able to collect data only from 7 selected banks for a short period of time which will affect the result of the study to generalize for wider population. The questionnaire was developed only through searching sufficient literature but considering the context of the demography of the population a pilot study would substantial before developing questionnaire. The male and female ratio is not fully appropriate because the male participants were more than the female participants. This research project is a part of 4th year physiotherapy course and this type of work is first at this level, so there may have some problems in techniques and short out in term of practical aspect. Time and resources were limited which have a great deal of impact on the study such as literature relevant to this topic, data collection time and financial support for conducting the research project.

The aim of the research is to explore the prevalence of low back pain among the Bank Workers. Data were numerically coded and captured in Microsoft Excel to show the result, using an SPSS 16.0 version software program for analyze the data as descriptive statistics. The investigator collected the descriptive data and calculated as descriptive statistics as percentages and presented by using both pie and bar charts. 100 participants were chosen to estimate the prevalence of low back pain among the bank workers.

Prevalence of back pain

After the analysis researcher found that 44 (44%) participants out of 100 participants have suffered from Back pain.

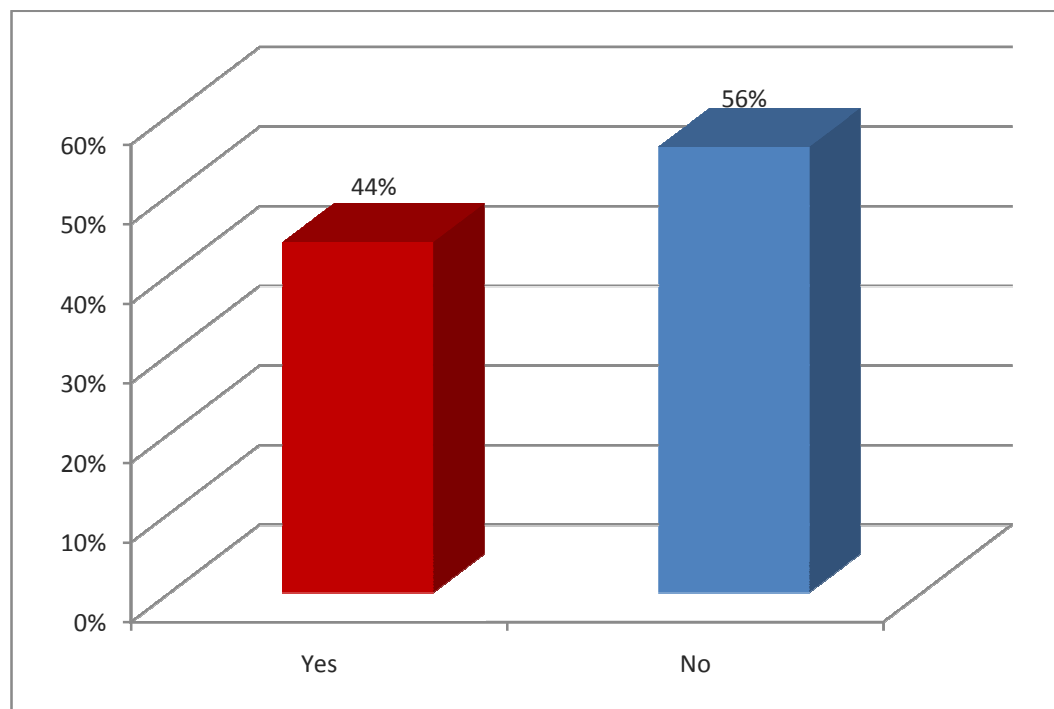


Figure-1: Prevalence of low back pain.

Sex

Analysis showed that among the 100 participants 86 were male and 14 were female. And among the 44 participants who were suffered from low back pain 36 (82%) participants were male and 8 (18%) were female.

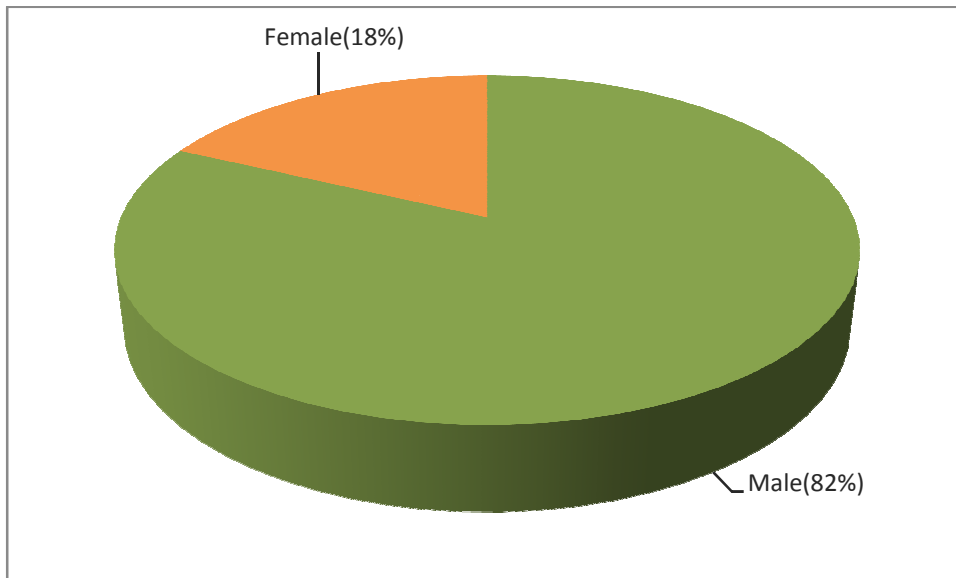


Figure-2: Sex of the participants.

Family type

By this study found that among the 100 participants 62(62%) participants had nuclear family and 38 participants (38%) had nuclear family.

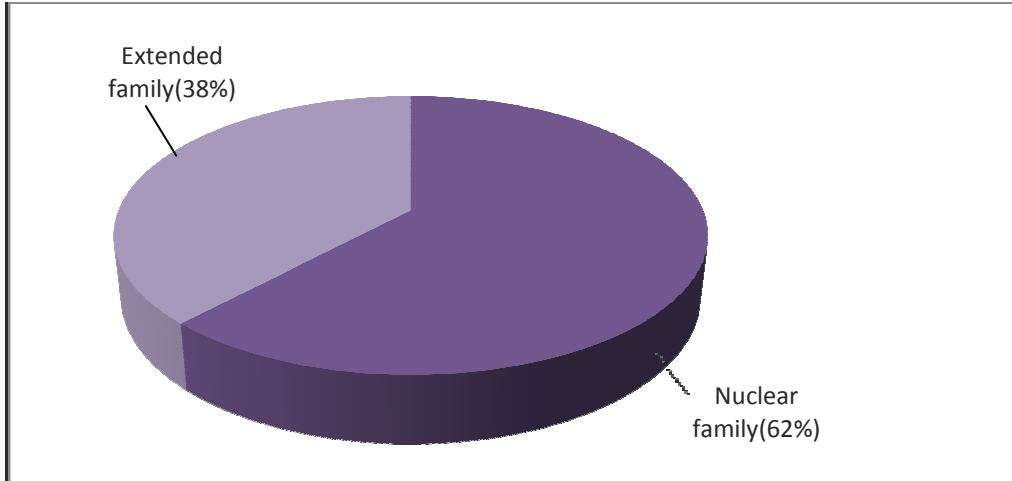


Figure-3: Family type of the participants

Religion

This study reveals that among the 100 participants, 85 participants (85%) were Muslims, 6 participants (6%) were Hindus and rest of the 9 participants (9%) was Buddhist.

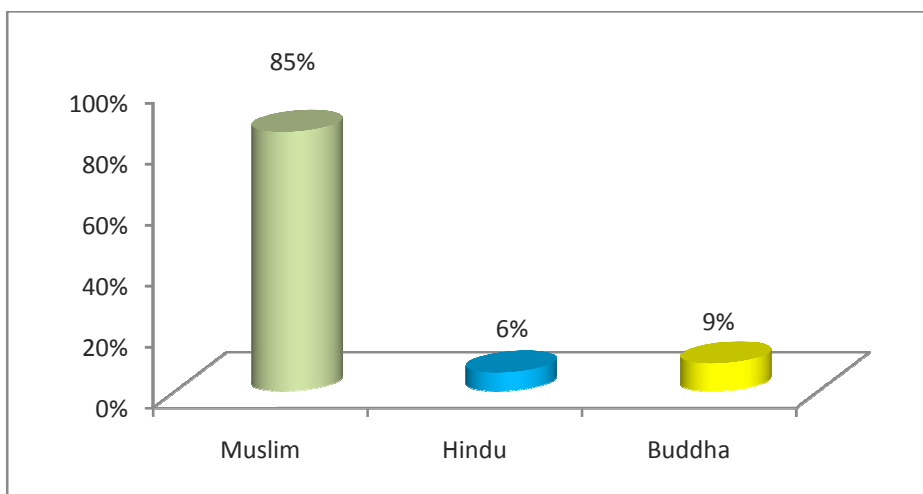


Figure-4: Religion of the participants

Age and back pain relationship

After analysis researcher found that among the 44 participants who have suffered from low back pain lowest age were 22 and highest age was 60 years and frequency were 6 (13.63%) participants in between 22- 30 years, 15 (34.09%) participants in between 31-40 years, 15 (34.09%) participants in between 41-50 years and 8 (18.18%) participants in between 51- 60 years.

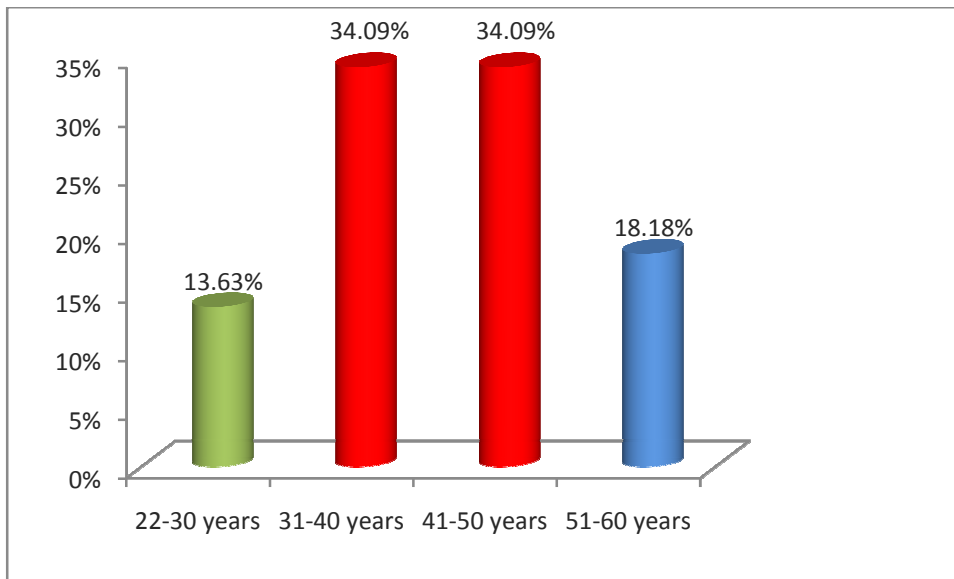


Figure-5: Age and back pain relationship.

Job experience and back pain relationship

After analysis researcher found that among the 44 participants out of 100 participants 16(36%) participants job experience were 1-8 years, 9 (21%) participants were 9-16 years, 8 (18%) participants were 17-24 years, and 11 (25.0%) were 25 -32 years.

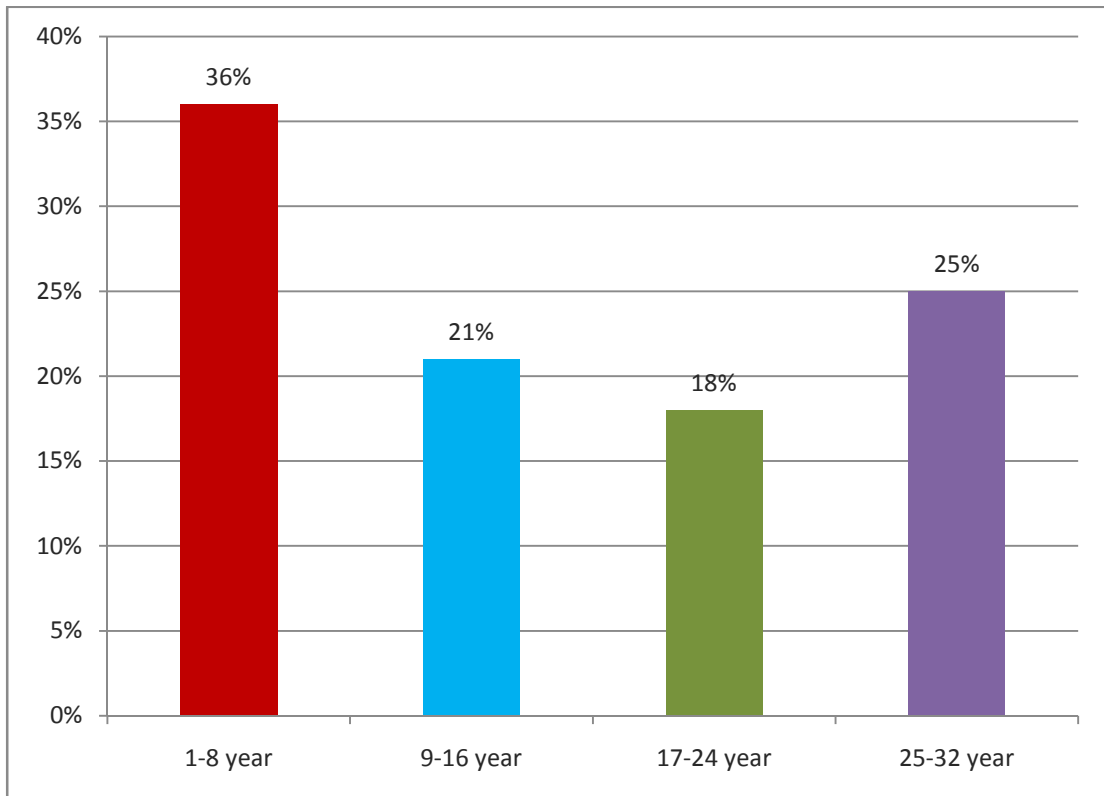


Figure-6: Job experience and back pain relationship.

First experience of back pain

Among the 44 participants who suffered from LBP 5(11%) participants felt their back pain in the 1st year of work, 16(36%) participants in the 1st five year of work ,13(30%) participants in the 5-15 year of work, 10 (23%) participants in >10 years of works.

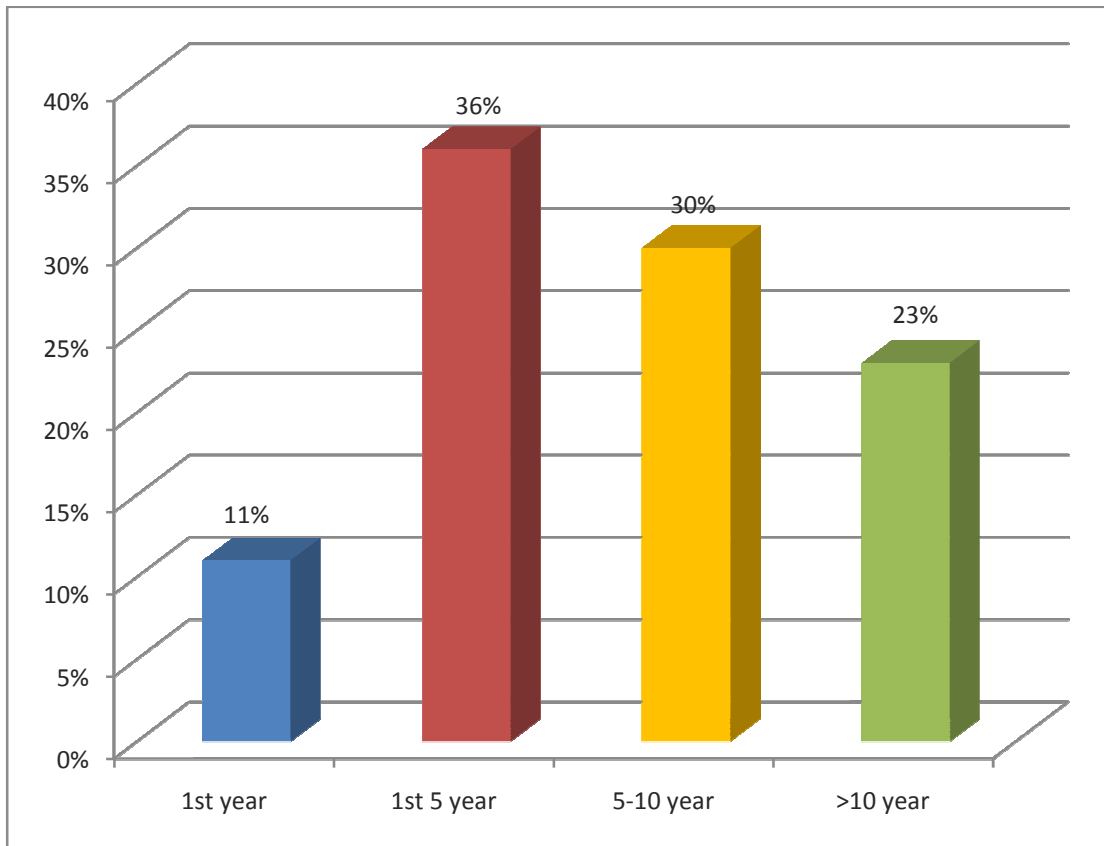


Figure-7: First experience of back pain.

Severity of pain

Analysis showed that among the 44 participants 15 (34%) participants have mild symptoms and 19 (43%) participants' have moderate symptoms and 10 (23%) have severe symptoms of pain.

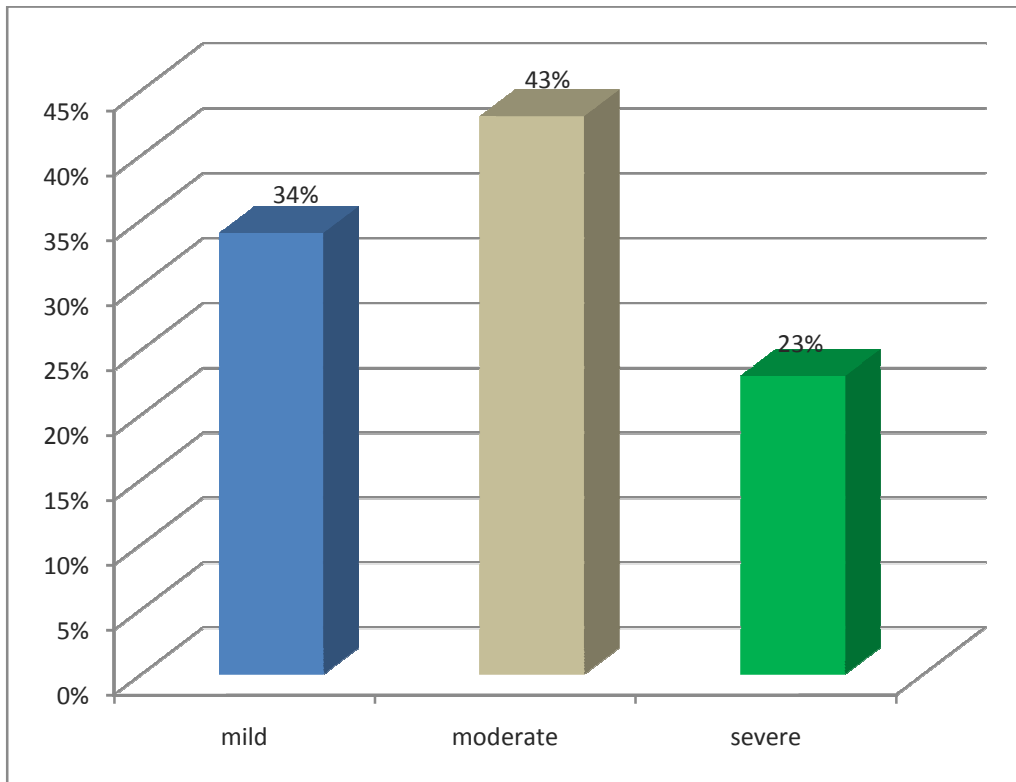


Figure-8: severity of pain among the participants.

Duration of working hour and back pain relationship

Among the 100 participants 63 participants have done 7-9 hours of work per day which 31 (70.44%) participants have experienced back pain and 37 participants have done 10-12 hours of work per day which 13 (29.56%) participants have experienced back pain.

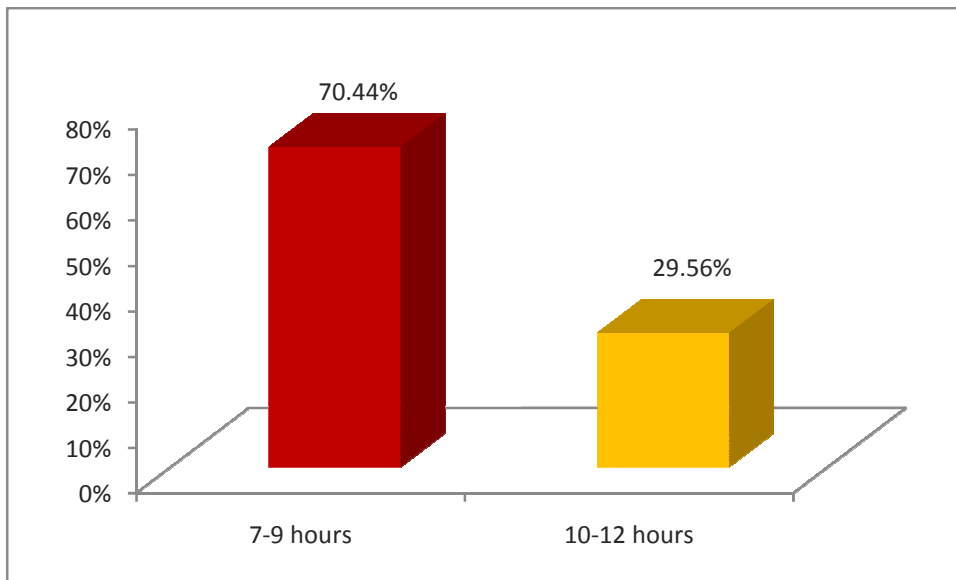


Figure-9: Duration of working hour and back pain relationship.

Working posture

Analysis showed that among the 100 participants 92(92%) participants maintained sitting posture and 8 (8%) participants maintain standing posture most of the time during working.

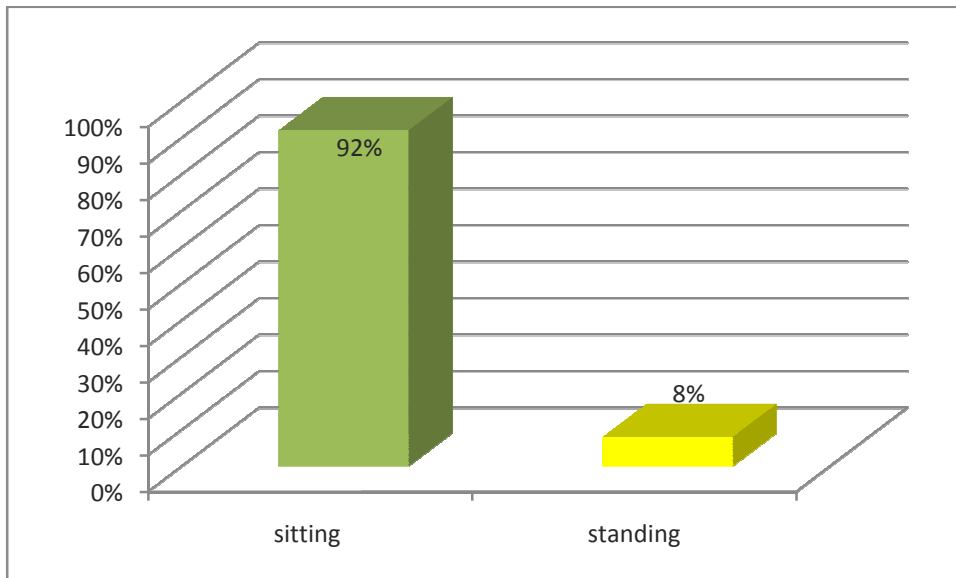


Figure-10: working posture of the participants.

Traumatic history in the back

Analysis reveals that among the 100 participants 17 (17%) have experienced trauma in the back and 83(83%) participants did not experience trauma in the back.

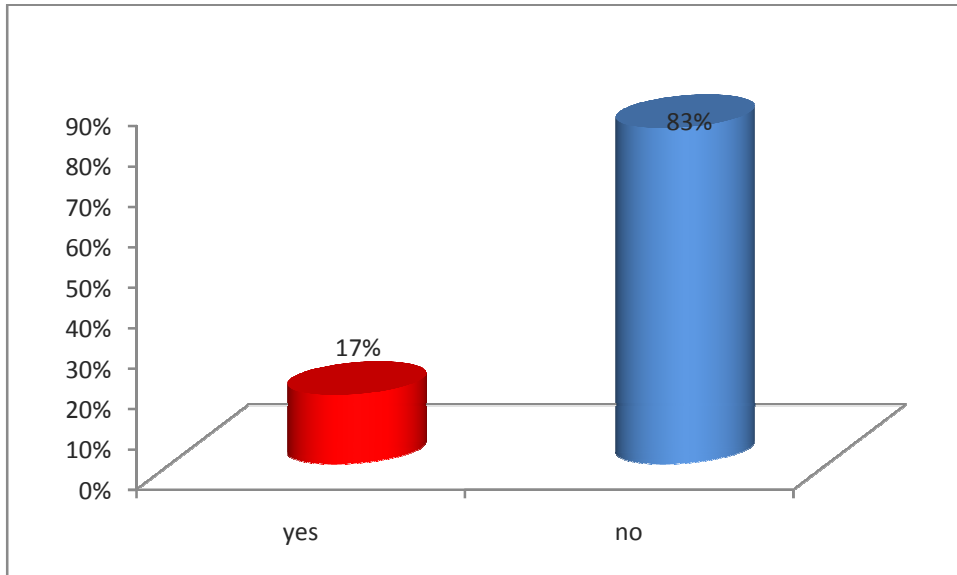


Figure-11: Traumatic history in the back of the participants.

Relation of trauma on the back to the LBP

Analysis showed that among the 17 participants who have experienced trauma in the back 15 (88.2%) participants have suffered LBP while 2 (11.80%) participants were not suffered from LBP.

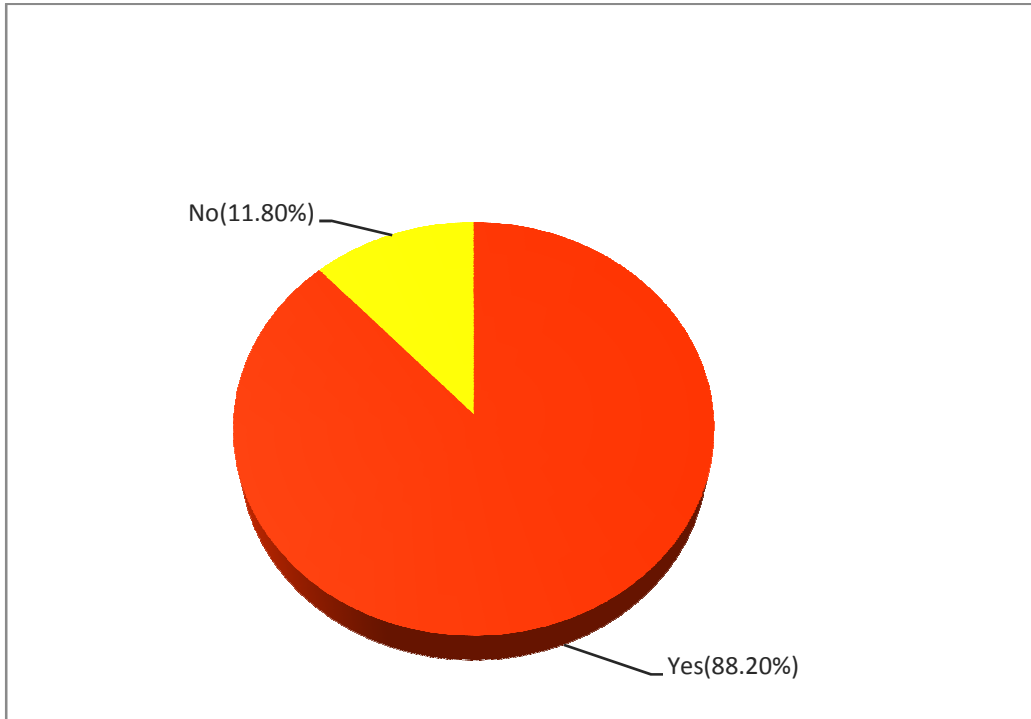


Figure-12: Relation of trauma on the back to the LBP.

Receiving treatment

Among the 44 participants who suffered from LBP 33(75%) participants have taken treatment and other 11(25%) participants did not take any treatment for their condition.

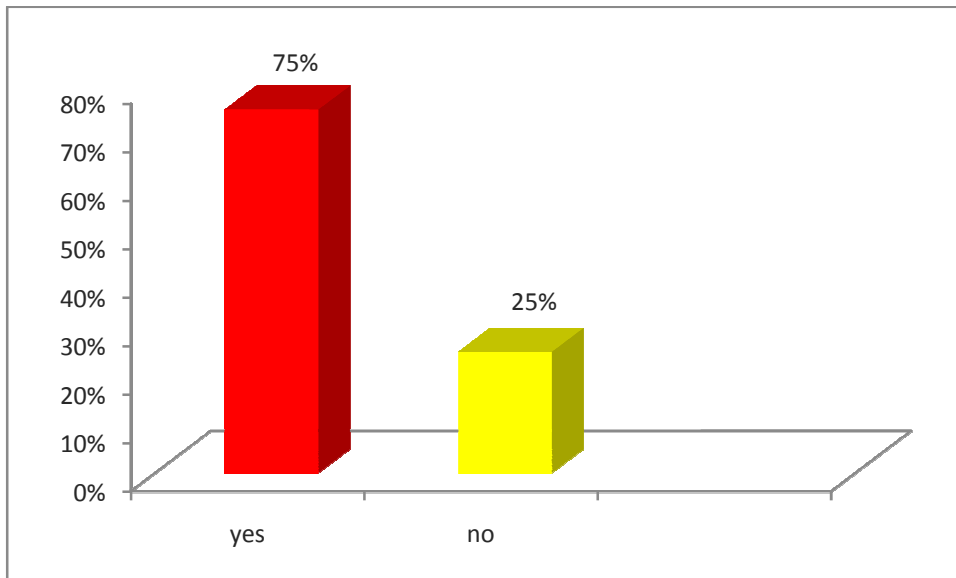


Figure-13: Receiving treatment by the participant.

Type of treatment received by the participants

Among the 44 participants who suffered from LBP 22 (67%) participants have taken only medication and 2 (6%) participants have taken only physiotherapy and 7 (21%) participants have taken both medication and physiotherapy treatment and 2 (6%) participants have taken others treatment for their condition.

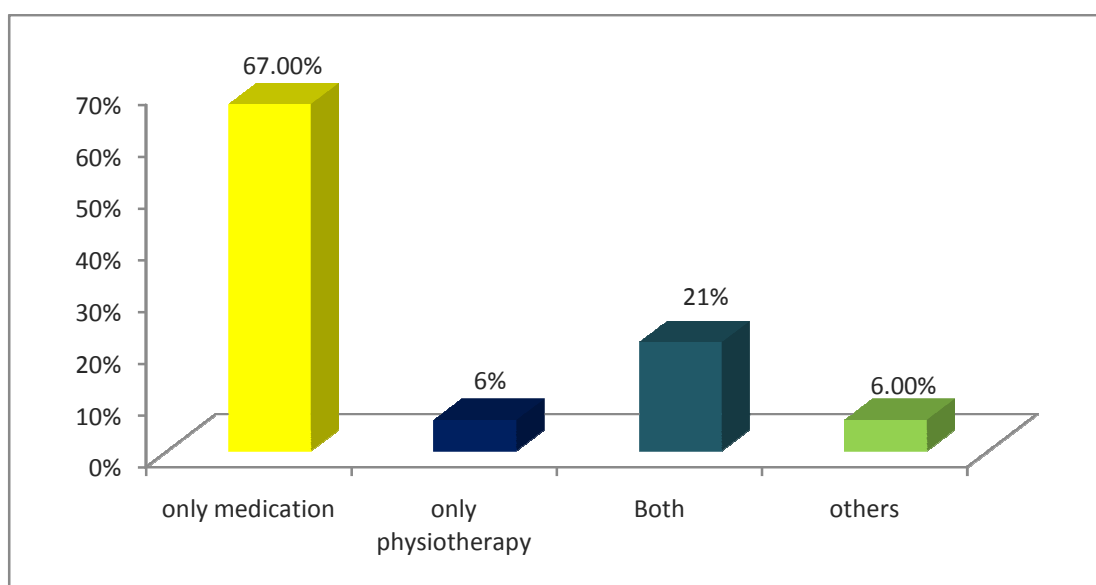


Figure-14: Type of treatment received by the participants.

Outcome of treatment

Analysis showed that among the 44 participants who suffered from LBP 33 participants received treatment, improve back pain of 15 (45.45%) participants and 16 (54.54%) participants remain unchanged.

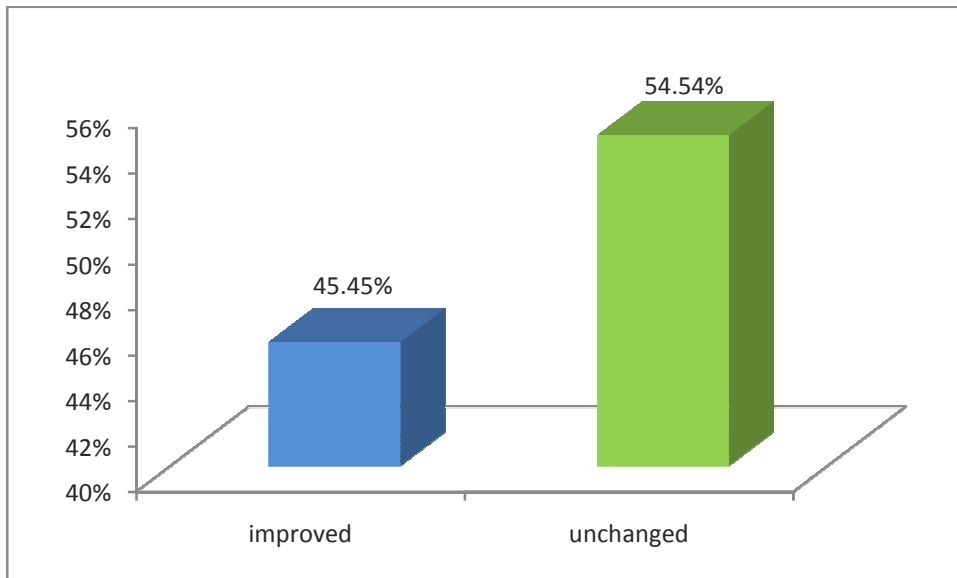


Figure-15: Outcome of treatment.

Association among the variables

Subsequently Chi square test is performed to find out the association among the variables. Only significant result shows Age Vs Back pain, Job experience Vs Back pain, and History of trauma Vs Back pain.

So researcher can generate hypothesis that with the progression of age more risk of vulnerability to back pain, also the more the experience of job the greater chance to develop work related back pain, and patient with back pain is experienced if any history of trauma.

This study examined the prevalence of Low back pain among the bank workers. By this study it has been found that near the half of the participant (44%) suffered from low back pain. This result is comparable to Marius in 2010 at UK that (41%) reported having at least one symptom in the past 12 months. A Cross sectional questionnaire studies performed in the UK and Japan had similar results to this study. The study performed in the UK found that the lifetime incidence of LBP was 58.3% in several towns and one rural district. Another questionnaire study in the UK found a 62% lifetime incidence rate in three medical practices in Twickenham, Stamford and Lower Clapton in 1996 (McKinnon et al, 1997).

Near about two third (65.6%) male participants showed greater prevalence of back pain. The findings from this study showed that 65.6% male are affected in back pain whether the female participants are 34.4%. Literature says that men are more vulnerable to back pain than female. In a research project that was published at 2003 by Omokhodion and Sanya showed that 40% male and 34% female were suffered from back pain at Nigeria. Another study showed that female (55%) office worker was more experienced than male (45%) office worker in USA (Marius, 2010).

In United States, a higher prevalence of back pain in male workers was reported and a study on LBP in Japan showed that the incidence in male workers was four times greater than that in female workers (Mostafa et al, 2006).

Most frequent age range of participants (34.09%) has suffered from back pain in between 31-40 and 41-50 years followed by (18.18%) participants 51-60 years. The youngest age category formed 22-30 years, (13.63%) participants while 51-60 years old was 18.18% suffered from low back pain. The results of this study showed that the majority of the population experienced LBP for the first time between 31-50 years of age. This age group is the largest proportion of the work force and with this part of the population affected to such a large degree it could affect the productivity of the company in a negative manner. This study is co related with the (Marius, 2010) who showed that the age of onset of the first episode of LBP was reported to be mainly between the ages of 30 to 49 years of age in 74.67% of the sample population. The

youngest age category, 19-29 years, formed 13.79% of the sample population, while the ages 50 to 69 years old were 11.56%. The study revealed that the prevalence of back pain is most frequent who had job experience of 1-8 years 36%, followed by 21% were 9-16 years, 18% were 17-24 years, and 25% were 25 -32 years. (Omokhodion & Sanya, 2003) showed that Prevalence was higher among senior grade staff (42%) compared with junior staff. Another study showed that work experience <10 years have suffered 44.3 % participant and 10-19 years job experienced have suffered 65.8% and ≥ 20 years job experienced have suffered 53.5% participants (Prawit et al, 2011).

This study showed that the relation of working duration and back pain is 7-9 hours of work per day which 70.44% participants have experienced back pain and 10-12 hours of work per day which 29.56% participants have experienced back pain. This study is nearly related with the study of (Maryam et al, 2010) which showed that <4 hours duration of working participants experienced pain 12.9% whether 4-8 hours duration working participants experienced pain 64.5% and >8 hours duration of working participants experienced pain 22.6%.

In this study most of the participants (90%) maintained long time sitting posture during their working hour. Omokhodion and Sanya, 2003 have showed that Sitting for >3 hour was associated with increased severity of low back pain. The type of Sitting influences incidence of low back pain in administrative staffs (Maryam et al, 2011). Van Vuuren(2005) showed significant adjusted odds ratio for bending and twisting and in findings of Ghaffari et al. the common risk factor were awkward positions (Mostafa, 2007). The major daily position that was associated with the point prevalence of LBP was sitting at 91.1 8% (Biering, 1983). The second highest daily activity that was associated with LBP was walking at 61.76% (George, 2007). The pain intensity scale was measured by the VAS scale which range from 0-10, where 0 was equal to no pain and 10 was the most excruciating pain ever experienced. The pain intensity was then divided into the above 3 categories mild (1-4) moderate (5-7) severe (8-10). The majority of the sample population experienced pain intensity from 5-7 out of 10 -44% .The second highest category was the intensity from 1-4 out of 10 -34%. The intensity, 8-10 out of 10, category was only experienced by 23% of the sample population.

Marius (2003) showed his research that the majority of the sample population experienced pain intensity from 5-7 out of 10 -54% (114/210). The second highest category was the intensity from 1-4 out of 10 -35% (74/210). The intensity, 8-10 out of 10, category was only experienced by 11% (22/210) of the sample population.

Three fourth (75.0%) participants who have suffered from back pain have taken treatment for their condition. According to (Marius, 2003) said that Almost half, 46.94% of the sample population sought treatment for their LBP in the UK.

This study revealed that 22 (67%) participants have taken only medication and 2 (6%) participants have taken only physiotherapy and 7 (21%) participants have taken both medication and physiotherapy treatment and 2 (6%) participants have taken others treatment for their condition. The majority of the subjects in this study made use of the pharmacy for treatment of LBP, and this treatment can be closely related to the treatment used by medical practitioners. This could possibly be due to the ease of access to a pharmacy.

Another study shows that drugs like NSAID's and analgesics were used in 21.99% (31/141) of cases. Medical doctors were consulted in 14.89% (21/141) and physiotherapists in 17.02% (24/141) of the cases. These were the second most popular choices for the treatment of LBP in the last 6 months. Chiropractic treatment was used by 8.51% (12/141) of the sample population. Acupuncture and private hospital treatment was used only by 0.71% (1/141) of the population studied. Biokinetics, homeopathy and osteopathy were three other disciplines on the questionnaire, but none of these disciplines were made use of as treatment options (Marius, 2003).

In this study analysis showed that among the 44 participants who suffered from LBP 33 participants received treatment, improve back pain of 15 (45.45%) participants and 16 (54.54%) participants remain unchanged. It was reported by (Marius, 2003) 85.5% of the sample population that the care they chose to use for their treatment of LBP was effective. The role of psychosocial risk factors in the development of spinal disorders is still under debate and no conclusion could be reached about the causal role of psychosocial risk factors in the development of LBP (Valerie, 2005).

The result of this study showed that the prevalence of LBP is 44% among the bank worker at Savar in Dhaka, Bangladesh. This may be associated with the type of job, working environment and job demand. For the fulfillment of this study the investigator used a quantitative research model in the form of a prospective type survey. Conveniently 100 participants among the bank worker were collected from various governmental and non- governmental banks. The investigator used a questionnaire. Each Participant was given a questionnaire to identify the prevalence of LBP among them. And from the documents of the participants the researcher forms a data base for the total sample included in the study. From the data base, it was found that Reported ratio of LBP among bank workers was 44.00%. Ratio of back pain was significantly higher in male bank workers (65.6%). In the work place, the desk workers are vulnerable to sustaining LBP during the course of their work routine due to long duration of working in sitting posture which provides more stress on the back. Some general and occupational risk factors are attributed in this regard. The risk factor that seemed to be associated with LBP was trauma to the lumbar spine, and long duration of sitting in poor posture during their working hour. Other factors like age, gender and race did not seem to have statistically significant effects on the prevalence of LBP.

Educational programs may have a valuable rule in LBP prevention. Bankers should be educated on ergonomics, posture, taking break in between work and relaxation as this will ultimately improve job satisfaction and performance. The uses of software that will monitor time spent while working on computer and prompt the user to take a break when working for too long can also be employed. Work place modification such as rotation policy among the workers flexible working hour should be employed. In practice, the results of this study can help to estimate low back problems, promotion of healthy lifestyle, ergonomic measurement and control, good posture and execution educational programs in office workers and consider resting periods during the work shift.

REFERENCES

- Amit B, Daniel G, Steven L and Michael JD, 2006, Physical therapy for low back pain, *Current Opinion in Orthopaedics*, 17:199–207.
- Anderson JAD, 1996, Back pain and their relation to work, <http://www.cdc.gov/niosh/docs/97-141/ergotxt7.htm>>[Viewed at 11 May 2012].
- Angela ML, Katia MB, Hayley K, and Margareta N, 2007, Association between sitting and occupational LBP, *European Spine Journal*, 16:283–298.
- Asdrubal F, Alisson RT, Thai´s M, Gustavo LB , Diniz K, Felipe B, Juliana , Daniel B, Lazzaretti, Bruna S and Nata´lia LB, 2011, *European Spine Journal*, 20:500–505.
- Atlas SJ, 2010, Nonpharmacological treatment for low back pain, *Journal of Musculoskeletal Medicine*, 27(1):20–27.
- Bailey DM, 1997, *Research for the Health Professional: A Practical Guide*, Philadelphia: F. A. Davis Company.
- Biering F, 1983, A prospective study of low back pain in a general population. 1- Occurrence, recurrence and aetiology, *Rehabilitation Medicine*, 15: 71-79.
- Bishop A, Foster NE, 2005, Do physical therapists in the United Kingdom recognize psychosocial factors in patients with acute low back pain? *Spine*, 30:1316–1322.
- Carey TS, Evans A, and Hadler N, 1995, Care-seeking among individuals with chronic low back pain, *Spine*, 20(3): 312-317.
- Charoenchai L, Chaikoolvatana A, and Chaiyakul P, 2006, the relationship between health behaviour and pain scale in patients with low back pain in Thailand, Department of Pharmacological science, Ubon Ratchathani University, Ubon Ratchathani, Thailand, 37(5): 1040.
- Chen SM, Liu MF, Cook J, and Bass S, 2009. Sedentary lifestyle as a risk factor for low backpain: a systematic review, *International Archives of Occupational and Environmental Health*, 82: 797–806.
- Choi BK, Verbeek JH, Wai-san W, and Jiang JY, 2010, Exercises for prevention of recurrences of low-back pain, *Cochrane Database Systematic Review*, 20(1): 1-50.
- Chou R, 2007, Diagnosis and treatment of low back pain: a joint clinical practice guideline from the American College of Physicians and the American Pain Society, *Annals of Internal Medicine*, 147(7):478–91.

- Chou R, Deyo, Bureah, and Winkel, 2011, Diagnostic imaging for low back pain: advice for high-value health care from the American College of Physicians, *Annals of internal medicine*, 154(3): 181–189.
- Chou R, Winkel, and Gou, 2009, Interventional Therapies, Surgery, and Interdisciplinary Rehabilitation for Low Back Pain, *Spine*, 34(10):1066–77.
- Ebnezer J, 2003, *Essential of orthopedics for physiotherapists*, Jaypee brother's medical publishers Ltd, New Delhi, India.
- Ehrlich GE, 2003, Low back pain, *Bull World Health Organ*, 81(9):671–676.
- Frymoyer JW, 1998, Back pain and sciatica, *New England Journal of Medicine*, 318: 291-300.
- George C, 2002, The six-month incidence of clinically significant low back pain in the Saskatchewan adult population, *Spine*, 27(16): 1778-82.
- Ghaffari M, Alipour A, Jensen I, Farshad A, and Vingard E, 2006, Low back pain among Iranian industrial workers, *Occupational Medicine*, 56(7):455-460.
- Harris JS, Brigham CR, 1990, Lower back pain: impact, causes, work relatedness, diagnosis and therapy, *Occupational and Environmental Medicine*, 4(11): 84-86.
- Healthy Back Exercises: Strengthen and Stretch, 2011, spine universe, available: <http://www.spineuniverse.com/wellness/exercise/healthy-back-exercises-strengthen-stretch>, [accessed on 22 May 2012].
- Hicks CM, 1999, *Practical Research Method for Physiotherapists*, Churchill Livingstone, New York.
- Hicks CM, 2000, *Basic Principles of Research: Research Method for Clinical Therapist Applied Project Design and Analysis*, Churchill Livingstone, New York.
- Katz R, 2006, Impairment and disability rating in low back pain, *Clinical Occupational Environmental Medicine*, 5(3): 719-740.
- Kelsey JL, 1990, Low back pain or Prolapsed lumbar intervertebral disc, *Rheumatic diseases Clinics of North America*, 16(3):699-716.
- Kelsey JL, White AA, 1980, Epidemiology and impact of low back pain, *Spine*, 5(2): 133-142.
- Kravitz A, and Andrews L, 2011, Fitness and Low Back Pain, available: <http://www.unm.edu/~lkravitz/Article%20folder/lowback.html>, [accessed on 11th May 2012].

- Kravitz L, and Andrews R, 1984, Fitness and Low Back Pain, available: <http://www.unm.edu/~lkravitz/Article%20folder/lowback.html>, [accessed on 11th May 2012].
- Marius AW, 2003, Low Back Pain In The Corporate Workplace; A South African Review, available: http://Low_Back_Pain_in_the_Corporate_Workplace.html?id=MEPPNwAACAAJ&redir_esc=y[assessed on 11th may 2012].
- MARYAM REZAEI, 2010, Low Back Pain and Related Factors among Iranian Office Workers, *International Journal Of Occupational Hygiene*, 3(1): 23-28.
- Masabumi M, Yasumasa S, Yoshihito N, Yoshikozu G, and Kazuhiro K, 2000, An epidemiologic study of occupational low back pain in truck drivers, *Journal of Nippon Medicine School*, 67(3): 186-190.
- McKenzie RA, 1995, *The lumbar spine mechanical diagnosis & therapy*, 1st edition, spinal publication, Wright & Carman limited, Newzealand.
- McKinnon ME, Vickers MR, 1997, Community studies of the health service implication of low back pain, *Spine*, 22(18): 2161-2166.
- Mostafa G, Akbar A, Irene J, Farshad AA, and Vingard E, 2006, Low back pain among Iranian industrial workers, *Occupational Medicine*, 56(7): 455-460.
- Murphy PL, Volinn E, 1999, Is occupational low back pain on the rise? *Spine*, 24(7):691-7.
- Omokhodion FO, Sanya AO, 2003, Risk factors for low back pain among office workers in Ibadan, Southwest Nigeria, *Occupational Medicine*, 53: 287–289.
- Ostgaard HC, Andersson GB, and Karlsson K, 1991, Prevalence of back pain in pregnancy, available: <http://www.ncbi.nlm.nih.gov/pubmed/1828912>, [accessed on 14th July 2012]
- Papageorgiou AC, Croft PR, 1995, Estimating the prevalence of low back pain in the general population. *Spine* 20(17): 1889-1894.
- Peter V, 2000, what are the causes and controls in construction? *Construction safety magazine & Musculoskeletal Disorders*, 11(3), <<http://www.csa.org/UploadFiles/Magazine/Vol11No3/musculo.htm>, [viewed 15 May 2012].
- Prawit J, Praneet P, Patriya M, Wiroj J, 2011, Development of a risk score for low back pain in office workers-a cross-sectional study, *BMC Musculoskeletal Disorders*, 12(23).

- Priyanga R, 2011, Work-related complaints of arm, neck and shoulder among computer office workers in an Asian country: prevalence and validation of a risk-factor questionnaire, *BMC Musculoskeletal Disorders*, 12(68).
- Quinette AL, Linzette DM, and Grimmer SK, 2007, The Prevalence of low back pain in Africa: a systematic review, *BMC Musculoskeletal Disorders*, doi: 10.1186/1471-2474-8-105.
- Sadigi A, Moradi A, Rahimi AR, Ltfinia I, and Zargami NA, 2008, Prevalence of LBP among women of fertility age in Tabriz and the related risk factors, *Medical Journal of Tabriz University of Medical Sciences*, 30(2): 17.
- Santhanee K, 2010, Prevalence and Risk Factors of Low Back Pain among the University Staff, *Journal of Medical Association Thai*, 93:142-148.
- Schneider S, Schmitt H, Zoller S, and Schiltewolf M, 2005, Workplace stress, lifestyle and social factors as correlates of back pain: a representative study of the German working population, *International Archives of Occupational and Environmental Health*, 78: 253–269.
- Shiel W, 2007, Causes of Low Back Pain, available: <http://www.cumc.columbia.edu/student/health/pdf/IL/Low%20Back%20Pain.pdf>, [accessed on 2nd April 2012].
- Shigeru T, 2010, Prevalence and Risk Factors of Low Back Pain among Thai and Myanmar Migrant Seafood Processing Factory Workers in Samut Sakorn Province, Thailand, *Industrial Health*, 48: 283–291.
- Sommerich CM, Glothin JD, and Marras WS, 1993, Occupational risk factors associated with soft tissue disorders and low back pain, a review on recent investigations in the literature, <http://www.cdc.gov/niosh/docs/97-141/default.html> [assessed on may 2012].
- Suhaimi MJ, Zahra JAT, 2009, Therapeutic Laser FOR Chronic Low Back Pain, *Bangladesh Journal of Medical Science*, 08(04): 118-128.
- Tissot F, Messing K and Stock S, 2009, Studying the relationship between low back pain and working postures among those who stand and those who sit most of the working day, *Ergonomics*, 52(11): 1402–1418.
- Torill H, Tveito, Mari H, and Hege RE, 2004, Low back pain interventions at the workplace: a systematic literature review, *Occupational Medicine*, 54: 3-13.
- Valerie Woods, 2005, Work-related musculoskeletal health and social support, *Occupational Medicine*, 55: 177-189.

- Walker B, 2000, The Prevalence of Low Back Pain: A Systematic Review of the Literature from 1966 to 1998, *Journal of Spinal Disorders*, 13(3): 205-217.
- Walker B, 2004, Low back pain in Australian adults. Prevalence and associated disability, *Journal of Manipulative and Physiological Therapeutics*, 27(1): 238-44.
- Walsh K, Cruddas M, and Coggon D, 1992, Low back pain in eight areas of Britain, *Journal of Epidemiology and Community Health*, 46: 227-230.
- Woolf A, Pfleger B, 2011, Burden of major musculoskeletal conditions, *Bull World Health Organ* 2003, 81(9): 646-656.

মৌখিক অনুমতি পত্র

আসসালামুআলাইকুম ,

আমি মোঃ আবু তাওহীদ ইমদাদ, বাংলাদেশ হেলথ প্রফেশনস ইনস্টিটিউট (বিএইচপিআই) এ বিএসসি ইন ফিজিওথেরাপি এর ৪র্থ বর্ষের একজন ছাত্র। কোর্স কারিকুলাম অনুসারে স্নাতক পর্যায়ে আংশিক সমাপ্তির জন্য আমি “সাভারে নির্বাচিত কয়েকটি ব্যাংকের কর্মকর্তা কর্মচারীদের কোমর ব্যাথার হার নিরূপণ ” নামক একটি রিসার্চ করছি। রিসার্চের লক্ষ্য সম্পাদনের জন্য অংশগ্রহনকারীকে প্রশ্নগোত্র পর্বগুলো পূরণ করতে হবে। এ গবেষণার মাধ্যমে আমরা ব্যাংক কর্মকর্তাদের কোমর ব্যাথার কারণ ও এর প্রতিকার বের করার চেষ্টা করব যা থেকে ভবিষ্যতে আপনিও আপনার প্রফেশনের লোকজন উপকৃত হবেন বলে আমি আশা করছি।

আপনার দেয়া সব তথ্য গোপন রাখা হবে এবং এক্ষেত্রে যেকোনো সংবাদ অথবা প্রকাশনার উৎস যে নামবিহীন তা নিশ্চিত করা হবে। আপনি স্বেচ্ছায় এখানে অংশগ্রহন করেছেন এবং অধ্যয়ন চলাকালীন যে কোন সময় কোন নেতিবাচক ধারণা ছাড়াই আপনি নিজেকে সরিয়ে নিতে পারবেন। সাক্ষাৎকার চলাকালীন সময় কোন প্রশ্ন অপছন্দ করা কিংবা উত্তর না দেয়ার ব্যাপারে আপনার অধিকার রয়েছে।

অংশগ্রহনকারী হিসেবে এই অধ্যয়ন নিয়ে আপনার কোন সংশয় বা প্রশ্ন থাকলে, সরাসরি যোগাযোগ করতে পারেন-মোঃ আবু তাওহীদ ইমদাদ, ৪র্থ বর্ষ, বি.এস.সি. ইন ফিজিওথেরাপি, /ইহসানুর রহমান, লেকচারার, বিএইচপিআই, সি আর পি, সাভার, ঢাকা -১৩৪৩।

সাক্ষাৎকারের আগে আপনার কোন প্রশ্ন আছে?

সুতরাং, সাক্ষাৎকারের জন্য আমি কি আপনার অনুমতি পেতে পারি?

হ্যাঁ ----- না-----

সাক্ষাৎকারীর স্বাক্ষর:-----

গবেষকের স্বাক্ষর:-----

VERBAL CONSENT STATEMENT

Assalamualaikum/Namasker, my name is MD. Abu Towhid Emdad, I am conducting this study for the partial fulfillment of Bachelor degree from Bangladesh Health Professions Institute (BHPI), University of Dhaka. The study titled “Prevalence of Low Back Pain among the bank workers at some selected banks in Savar” For this purpose i would like to know about some personal and other related questions about LBP. This will take approximately 20 - 30 minutes.

I would like to inform you that this is a purely academic study and will not be used for any other purpose. All information provided by you will be treated as confidential and in the event of any report or publication it will be ensured that the source of information remains anonymous. 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 Md.Abu Towhid Emdad, researcher and/ or Ehsanur Rahman, Lecturer of physiotherapy department, BHPI, CRP, Savar, Dhaka-1343.

Do you have any questions before I start?

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

YES

NO

Signature of the participant -----

Signature of the Interviewer -----

প্রশ্নপত্র

শিরোনাম: সাভারে নির্বাচিত কয়েকটি ব্যাংকের কর্মকর্তা কর্মচারীদের কোমর ব্যাথার হার নিরূপণ

কোড নং:

তারিখ:

নিজস্ব তথ্য:

নাম:

বয়স.....বছর

লিঙ্গ: পুরুষ মহিলা

সামাজিক জনসংখ্যাভিত্তিক তথ্য:

১.বৈবাহিক অবস্থা:

অবিবাহিত বিবাহিত ডিভোর্স অন্যান্য

২.পরিবারের ধরণ:

একক পরিবার যৌথ পরিবার

৩.ধর্ম:

মুসলিম হিন্দু বৌদ্ধ খৃষ্টান

৪.শিক্ষাগত যোগ্যতা:

স্নাতক স্নাতকোত্তর অন্যান্য

৫.চাকুরির অভিজ্ঞতা:.....বছর

৬.কাজের সময়:..... ঘন্টা

কোমর ব্যাথা সংক্রান্ত তথ্য:

৭.আপনি কি কখনো কাজ করতে গিয়ে কোমরে ব্যাথা অনুভব করেছেন? [আপনার উত্তর যদি না হয় তাহলে দয়া করে ১৮ নং প্রশ্নে যান]

হ্যাঁ না

৮.আপনি প্রথম কবে কোমরে ব্যাথা অনুভব করেছেন?

চাকুরির ১ম বছর ১ম ৫ বছর ৫-১০ বছর ১০ বছরের

উর্ধ্বে

৯.আপনার কোমর ব্যাথার তীব্রতা কিরূপ?

ব্যাথা আসে যায় সার্বক্ষণিক ব্যাথা থাকে অন্যান্য

১০.ব্যাথা কি কখনো পা পর্যন্ত চলে আসে?

হ্যাঁ না

১১. ব্যাথার পরিমাণ কেমন?

সামান্য ব্যাথা মধ্যম ব্যাথা প্রচণ্ড ব্যাথা

১২. ব্যাথার কারণে কি কখনো কাজ বন্ধ রেখেছিলেন?

হ্যাঁ না

১৩. ব্যাথার জন্য কি কখনো ফিজিওথেরাপিষ্ট বা অন্য কোন হেলথ প্রফেশনালের কাছে গিয়েছিলেন?

হ্যাঁ না

১৪. আপনি কি ধরণের চিকিৎসা গ্রহণ করেছেন?

ঔষধ ফিজিওথেরাপি অন্যান্য

১৫. চিকিৎসার পর কেমন মনে হয়েছে?

পূর্বের চেয়ে ভাল পূর্বের চেয়ে খারাপ অপরিবর্তিত

১৬. “VAS” স্কেল অনুযায়ী ব্যাথার তীব্রতা নিরূপণ করুন ?

১-----১০

১৭. কি করলে কাজের সময় আপনার ব্যাথা বেড়ে যায়?

দীর্ঘক্ষণ বসে থাকলে দীর্ঘক্ষণ দাঁড়িয়ে থাকলে দীর্ঘক্ষণ এক পাশে কাত হয়ে থাকলে

১৮. আপনি কোমরে কখনো আঘাত পেয়েছিলেন? করেছেন? [আপনার উত্তর যদি না হয় তাহলে দয়া করে ২০ নং প্রশ্নে যান]

হ্যাঁ না

১৯. কি ধরণের আঘাত পেয়েছিলেন?

পড়ে গিয়ে সরাসরি আঘাত ভারী বস্তু টানতে গিয়ে অন্যান্য

২০. দিনের বেশীর ভাগ সময় কোন পজিশনে থাকেন?

বসে দাঁড়িয়ে এক পাশে ভাজ হয়ে

Questionnaire

Title: PREVALANCE OF LOW BACK PAIN AMONG THE BANK WORKERS AT SOME SELECTED BANKS IN SAVAR:

Code no:

Date of interview:

1. Personal details:

▪ Name

▪ Ageyears

▪ Sex

Male Female

2. Socio-demographic information:

1. Marital status

Single Married Divorce Others

2. Family type

Nuclear family Extended family

3. Religious status

Islam Hindu Buddhist Christianist

4. Educational qualification

Honors Masters Others

5. Job experienceyears

6. Working hourhours

Back pain related question:

7. Have you experienced work related pain or discomfort in your back? [if not please follow the question no17.]

Yes No

8. When did you first experience of back pain?

1st year of Work First 5 year 5-10 years of work
more than 10 years

9. What is the behavior of your pain?

Intermittent Constant Not applicable

10. Is the pain radiate to the leg?

Yes No

11. What is the severity of pain?

Mild Moderate Severe

12. Do you stay away from work because of pain?

Yes No

13. Had you referred to the physiotherapist or other health professionals due to pain?

Yes No

14. What kind of treatment did you receive?

Medication Physiotherapy Others

15. What is the result of this treatment?

Improve Worse Unchanged

16. Severity of pain according to vas scale?

0.....10

17. What factors that make your symptoms worse at work place?

Prolong sitting Prolong standing Prolong bending

Twisting movements

18. Have you got any trauma in the back? [if not skip to the question no 19.]

Yes No

19. What type of trauma had you experienced in the back?

Fall down Direct trauma pulling heavy object Others

20. Which posture do you maintain most of the time during activity?

Sitting Standing Bending

“Thank you”



বাংলাদেশ হেল্থ প্রফেশন্স ইনস্টিটিউট (বিএইচপিআই)
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তারিখঃ ০১.০৮.২০১২

প্রতি
ব্যবস্থাপক
জনতা ব্যাংক লিঃ
সাভার, ঢাকা।

বিষয় : রিসার্চ প্রজেক্ট (dissertation) এর জন্য আপনার প্রতিষ্ঠান সফর ও তথ্য সংগ্রহ প্রসঙ্গে।

জনাব,

আপনার সদয় অবগতির জন্য জানাচ্ছি যে, পক্ষাঘাতগ্রস্তদের পুনর্বাসন কেন্দ্রে-সিআরপি'র শিক্ষা প্রতিষ্ঠান বাংলাদেশ হেল্থ প্রফেশন্স ইনস্টিটিউট (বিএইচপিআই) ঢাকা বিশ্ববিদ্যালয় অনুমোদিত বিএসসি ইন ফিজিওথেরাপী কোর্স পরিচালনা করে আসছে।

উক্ত কোর্সের ছাত্রছাত্রীদের কোর্স কারিকুলামের অংশ হিসাবে বিভিন্ন বিষয়ের উপর রিসার্চ ও কোর্সওয়ার্ক করা বাধ্যতামূলক।

বিএইচপিআই'র ৪র্থ বর্ষ বিএসসি ইন ফিজিওথেরাপী কোর্সের ছাত্র মোঃ আবু তৌহিদ এমদাদ তার রিসার্চ সংক্রান্ত কাজের তথ্য সংগ্রহের জন্য আপনার সুবিধামত সময়ে আপনার প্রতিষ্ঠানে সফর করতে আহ্বাই। তার রিসার্চ শিরোনাম “Prevalence of low back pain among the bank workers.”

তাই তাকে আপনার প্রতিষ্ঠান সফর এবং প্রয়োজনীয় তথ্য প্রদান সহ সার্বিক সহযোগীতা প্রদানের জন্য অনুরোধ করছি।

ধন্যবাদান্তে

মোঃ ওবায়দুল হক
সহকারী অধ্যাপক ও কোর্স-কো অর্ডিনেটর
ফিজিওথেরাপী বিভাগ
বিএইচপিআই।





বাংলাদেশ হেল্থ প্রফেশন্স ইনস্টিটিউট (বিএইচপিআই)
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তারিখঃ ০১.০৮.২০১২

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জনাব,

আপনার সদয় অবগতির জন্য জানাচ্ছি যে, পক্ষাঘাতগ্রস্তদের পুনর্বাসন কেন্দ্রে-সিআরপি'র শিক্ষা প্রতিষ্ঠান বাংলাদেশ হেল্থ প্রফেশন্স ইনস্টিটিউট (বিএইচপিআই) ঢাকা বিশ্ববিদ্যালয় অনুমোদিত বিএসসি ইন ফিজিওথেরাপী কোর্স পরিচালনা করে আসছে।

উক্ত কোর্সের ছাত্রছাত্রীদের কোর্স কারিকুলামের অংশ হিসাবে বিভিন্ন বিষয়ের উপর রিসার্চ ও কোর্সওয়ার্ক করা বাধ্যতামূলক।

বিএইচপিআই'র ৪র্থ বর্ষ বিএসসি ইন ফিজিওথেরাপী কোর্সের ছাত্র মোঃ আবু তোহিদ এমদাদ তার রিসার্চ সংক্রান্ত কাজের তথ্য সংগ্রহের জন্য আপনার সুবিধামত সময়ে আপনার প্রতিষ্ঠানে সফর করতে আশ্রয়ী। তার রিসার্চ শিরোনাম “ Prevalence of low back pain among the bank workers .”

তাই তাকে আপনার প্রতিষ্ঠান সফর এবং প্রয়োজনীয় তথ্য প্রদান সহ সার্বিক সহযোগিতা প্রদানের জন্য অনুরোধ করছি।

ধন্যবাদান্তে

মোঃ ওবায়দুল হক
সহকারী অধ্যাপক ও কোর্স-কো অর্ডিনেটর
ফিজিওথেরাপী বিভাগ
বিএইচপিআই।





বাংলাদেশ হেল্থ প্রফেশন্স ইনস্টিটিউট (বিএইচপিআই)
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তারিখঃ ০১.০৮.২০১২

প্রতি
ব্যবস্থাপক
ন্যাশনাল ব্যাংক লিঃ
সাভার, ঢাকা।

বিষয় : রিসার্চ প্রজেক্ট (dissertation) এর জন্য আপনার প্রতিষ্ঠান সফর ও তথ্য সংগ্রহ প্রসঙ্গে।

জনাব,

আপনার সদয় অবগতির জন্য জানাচ্ছি যে, পক্ষাঘাতগ্রস্তদের পুনর্বাসন কেন্দ্রে-সিআরপি'র শিক্ষা প্রতিষ্ঠান বাংলাদেশ হেল্থ প্রফেশন্স ইনস্টিটিউট (বিএইচপিআই) ঢাকা বিশ্ববিদ্যালয় অনুমোদিত বিএসসি ইন ফিজিওথেরাপী কোর্স পরিচালনা করে আসছে।

উক্ত কোর্সের ছাত্রছাত্রীদের কোর্স কারিকুলামের অংশ হিসাবে বিভিন্ন বিষয়ের উপর রিসার্চ ও কোর্সওয়ার্ক করা বাধ্যতামূলক।

বিএইচপিআই'র ৪র্থ বর্ষ বিএসসি ইন ফিজিওথেরাপী কোর্সের ছাত্র মোঃ আবু তৌহিদ এমদাদ তার রিসার্চ সংক্রান্ত কাজের তথ্য সংগ্রহের জন্য আপনার সুবিধামত সময়ে আপনার প্রতিষ্ঠানে সফর করতে আছেন। তার রিসার্চ শিরোনাম “Prevalence of low back pain among the bank workers .”

তাই তাকে আপনার প্রতিষ্ঠান সফর এবং প্রয়োজনীয় তথ্য প্রদান সহ সার্বিক সহযোগিতা প্রদানের জন্য অনুরোধ করছি।

ধন্যবাদান্তে

মোঃ ওবায়দুল হক
সহকারী অধ্যাপক ও কোর্স-কো অর্ডিনেটর
ফিজিওথেরাপী বিভাগ
বিএইচপিআই।





বাংলাদেশ হেল্থ প্রফেশন্স ইনষ্টিটিউট (বিএইচপিআই)
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তারিখঃ ০১.০৮.২০১২

প্রতি
ব্যবস্থাপক
বাংলাদেশ কৃষি ব্যাংক লিঃ
সাভার, ঢাকা।

বিষয় : রিসার্চ প্রজেক্ট (dissertation) এর জন্য আপনার প্রতিষ্ঠান সফর ও তথ্য সংগ্রহ প্রসঙ্গে।

জনাব,

আপনার সদয় অবগতির জন্য জানাচ্ছি যে, পক্ষাঘাতগ্রস্তদের পুনর্বাসন কেন্দ্রে-সিআরপি'র শিক্ষা প্রতিষ্ঠান বাংলাদেশ হেল্থ প্রফেশন্স ইনষ্টিটিউট (বিএইচপিআই) ঢাকা বিশ্ববিদ্যালয় অনুমোদিত বিএসসি ইন ফিজিওথেরাপী কোর্স পরিচালনা করে আসছে।

উক্ত কোর্সের ছাত্রছাত্রীদের কোর্স কারিকুলামের অংশ হিসাবে বিভিন্ন বিষয়ের উপর রিসার্চ ও কোর্সওয়ার্ক করা বাধ্যতামূলক।

বিএইচপিআই'র ৪র্থ বর্ষ বিএসসি ইন ফিজিওথেরাপী কোর্সের ছাত্র মোঃ আবু তৌহিদ এমদাদ তার রিসার্চ সংক্রান্ত কাজের তথ্য সংগ্রহের জন্য আপনার সুবিধামত সময়ে আপনার প্রতিষ্ঠানে সফর করতে আশ্রয়ী। তার রিসার্চ শিরোনাম “Prevalence of low back pain among the bank workers.”

তাই তাকে আপনার প্রতিষ্ঠান সফর এবং প্রয়োজনীয় তথ্য প্রদান সহ সার্বিক সহযোগীতা প্রদানের জন্য অনুরোধ করছি।

ধন্যবাদান্তে

মোঃ ওবায়দুল হক
সহকারী অধ্যাপক ও কোর্স-কো অর্ডিনেটর
ফিজিওথেরাপী বিভাগ
বিএইচপিআই।





বাংলাদেশ হেল্থ প্রফেশনস ইনস্টিটিউট (বিএইচপিআই)
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তারিখঃ ০১.০৮.২০১২

প্রতি
ব্যবস্থাপক
ঢাকা ব্যাংক লিঃ
সাভার, ঢাকা।

বিষয় : রিসার্চ প্রজেক্ট (dissertation) এর জন্য আপনার প্রতিষ্ঠান সফর ও তথ্য সংগ্রহ প্রসঙ্গে।

জনাব,

আপনার সদয় অবগতির জন্য জানাচ্ছি যে, পক্ষাঘাতগ্রস্তদের পুনর্বাসন কেন্দ্রে-সিআরপি'র শিক্ষা প্রতিষ্ঠান বাংলাদেশ হেল্থ প্রফেশনস ইনস্টিটিউট (বিএইচপিআই) ঢাকা বিশ্ববিদ্যালয় অনুমোদিত বিএসসি ইন ফিজিওথেরাপী কোর্স পরিচালনা করে আসছে।

উক্ত কোর্সের ছাত্রছাত্রীদের কোর্স কারিকুলামের অংশ হিসাবে বিভিন্ন বিষয়ের উপর রিসার্চ ও কোর্সওয়ার্ক করা বাধ্যতামূলক।

বিএইচপিআই'র ৪র্থ বর্ষ বিএসসি ইন ফিজিওথেরাপী কোর্সের ছাত্র মোঃ আবু তৌহিদ এমদাদ তার রিসার্চ সংক্রান্ত কাজের তথ্য সংগ্রহের জন্য আপনার সুবিধামত সময়ে আপনার প্রতিষ্ঠানে সফর করতে আগ্রহী। তার রিসার্চ শিরোনাম “Prevalence of low back pain among the bank workers.”

তাই তাকে আপনার প্রতিষ্ঠান সফর এবং প্রয়োজনীয় তথ্য প্রদান সহ সার্বিক সহযোগীতা প্রদানের জন্য অনুরোধ করছি।

ধন্যবাদান্তে

মোঃ ওবায়দুল হক
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ফিজিওথেরাপী বিভাগ
বিএইচপিআই।

