PREVALENCE OF LOW BACK PAIN AMONG THE HOUSEWIVES

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

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

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DECLERATION

I declare that the work presented here is my own. All sources used have been cited appropriately. Any mistakes or inaccuracies are my own. I also decline that for any publication, presentation or dissemination of information of the study. I would bind to take written consent of my supervisor.

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Abbreviations

LBP:	Low Back Pain
MS:	Musculoskeletal
ADL:	Activity of Daily Living
CRP:	Center for the Rehabilitation of the Paralysed.
BHPI:	Bangladesh Health Professions Institute.
SPSS:	Statistical Package for the Social Sciences.
NSAID:	Non-Steroid Anti Inflammatory Drug
PT:	Physiotherapy
VAS:	Visual Analogue Scale
WHO:	World Health Organization
USA:	United States of America
BMI:	Body Mass Index

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Abstract

Purpose: To identify the prevalence of low back pain among the housewives. *Objectives:* To find out the number of housewives affected by LBP per hundred housewives, to measure the severity of pain by using VAS scale, to identify the distribution of pain, to know the duration of pain, to identify the behavior of pain, to explore the socio-demography of the affected group, to determine the most common factors that are responsible for developing LBP among the housewives, to identify the available treatment received by the LBP affected housewives. *Methodology:* The study design was cross-sectional. Total 70 samples were selected conveniently for this study from the two selected area of Manikgonj. 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 58.6% housewives suffered from LBP. Most of them had been suffered from mild to moderate LBP with 18.6% had radiation to leg and 8.6% suffered from LBP for less than 6 months, 7.1% suffered from >6 months but <1 year and 42.9% suffered from >1 year of duration. 63.4% % housewives took treatment for their LBP among this only 10% took physiotherapy and the physiotherapy. *Conclusion:* The investigator could conclude from this study that more than half housewives were suffering from LBP. This result of this study also provided background information about LBP that may be useful in prevention and treatment of LBP, thereby reducing its prevalence.

CHAPTER-I INTRODUCTION

1.1 Background of the study

Low back pain (LBP) is one of the most common symptoms experienced by people throughout the world **(**Charoenchai et al., 2006**)** and according to WHO (2003) 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**)**. LBP has been referred as a 20^{th} century disaster (Sparkes, 2005) and now a days it become an universal problem. In the United States disabling low back pain episodes increased 26% from 1974 to 1978, while the population increased only 7% (Pope, 1989). LBP is also very costly: in the U.S. total incremental direct health care costs attributable to low back pain were estimated at $26.3 billion in 1998 (Chou et al., 2007). It is also considered the second leading cause of office visits to primary care physicians in USA (Licciardone, 2008).

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). LBP is the most prevalent musculoskeletal condition and one the most common causes of disability in the developed nations. In developed countries such as the United States of America (USA) and Australia, LBP prevalence ranges from 26.4% to 79.2%. The lifetime prevalence of LBP in developed countries is reported to be up to 85%. LBP incurs billions of dollars in medical expenditures each year (Louw et al., 2007). Cassidy et al. reported that the prevalence of LBP among adult Canadians was 28.4% and 84.1% of Saskatchewan adults had experienced LBP at some point during their lifetime. In 1994, the estimated cost of back and spine disorders in Canada was $8.1 billion in Canadian dollars (Alkherayf, 2010). In the Netherlands, 15% of the total working-age population currently claims disability insurance for their LBP. Each year, low back pain accounts for 13% of all new cases. Nonetheless, there are indications that physical activities, i.e. manual material

handling, bending, twisting (heavy load) and whole-body vibration, are possibly risk factors for acute LBP. Quantification of mechanical load, posture and spinal load applied could be useful to identify the physical risk factors (Bakker, 2007). Reports from industrialized countries have indicated prevalence rates among the general population ranging from 21% in Hong Kong and 39% in Bradford, UK to 69% in Denmark. Reports from less industrialized countries are few but it is generally believed that the prevalence is much lower than the industrialized countries (Omokhodion, 2002).

In rural area of India the incidence of LBP highest in housewives, followed by weavers and cultivators (HAQ et al., 2008). It is a fact that the women of rural areas contribute to agricultural work in addition to their domestic work. Presently, they constitute one-third of the agricultural labor force and about 48 per cent of self-employed farmers. It is also estimated that on an average, the Indian woman, especially in the poverty group spends above five hours per day more than the Indian man in work, including the visible burden of family (Singh and Arora, 2010). According to a new systematic review of the global prevalence of low back pain the LBP was found to be a major problem throughout the world and highest in women and the age group 40 to 80 years (Ali et al., 2008). While prevalence estimates of low back pain vary, population-based data indicate that more than 70% of women experience low back pain during their lifetime, with 50% of women affected during pregnancy and 66% following their reproductive years (Urquhart et al., 2009). The literature showed that LBP was more common in married women, smokers and housewives. There was no significant relation among height, weight, BMI, exercise program, level of calcium, phosphor and vitamin D with prevalence of LBP. Most of active women in fertility age are suffering from LBP. Aging, marriage, housekeeping, smoking, several pregnancy and delivery may effect on incidence of LBP (Ali et al., 2008). Females and housewives tend to do most of the work around the house. This may demand them to sit, stand, or bend for long periods of time, or to lift heavy weights. The amount of work may be doubled if they were obliged to work at some professional job type or serve the guest. The literature showed that prevalence LBP is high among females in general population and among this female the prevalence of LBP is highest among housewives (Bener et al., 2002).

1.2 Justification of the study

The aim of the study is to find out the prevalence of LBP among the housewives. In our country in which ergonomics the housewives are worked and which types of work are done by them, these make them more prone to develop different musculoskeletal problems; among these musculoskeletal problems LBP is the most common. Literature showed that prolong static posture like stooping, bending, sitting, standing, as well as prolong squatting proposed to be associated with LBP. Besides these regular heavy weight lifting and heavy physical work to moderate physical activity is seems to be associated with LBP, in our country these work are done by the housewives regularly as their ADLs, specially the housewives who are lived in the rural area, they need to carry their child, sometimes need to collect water from far away with big jar and even they need to helps their husband in farming too. The investigator see that the most of the ergonomical risk factor are induced by the housewives of our country, so the housewives are the more venerable group to develop LBP in our country. But this topic does not come into focus because most of the time they ignore this problem by considering the problem of her family member because they need to take care her family which they consider as the main duty of their life. They only disclose the problem when it becomes unbearable to them and they cannot continue the work anymore. Even they do not get proper treatment in case low socio-economical condition. But most of this LBP can be prevented or even curable only by following some ergonomical advice during their ADLs. By considering the problems of the housewives, investigator is interested in these topics to focus the LBP problems among the housewives. From this study investigator will able to identify the prevalence of LBP and the most common factors which are responsible for developing LBP which can helps to develop appropriate measures to prevent the LBP among the housewives. Housewives may provide proper guideline for every single risk which will be helpful for them. When the researcher collect the data she must introduce herself to the participants as the physiotherapist and her role in musculoskeletal sector, as a result, at least the participants of this study get the information about one of the sectors of physiotherapy thus the information about the physiotherapy profession is spread out and the investigator thinks that it also will be very helpful in professional development of physiotherapy which is necessary for the current situation.

1.3 Research question

What is the prevalence of LBP among the housewives?

1.4 Objectives of study

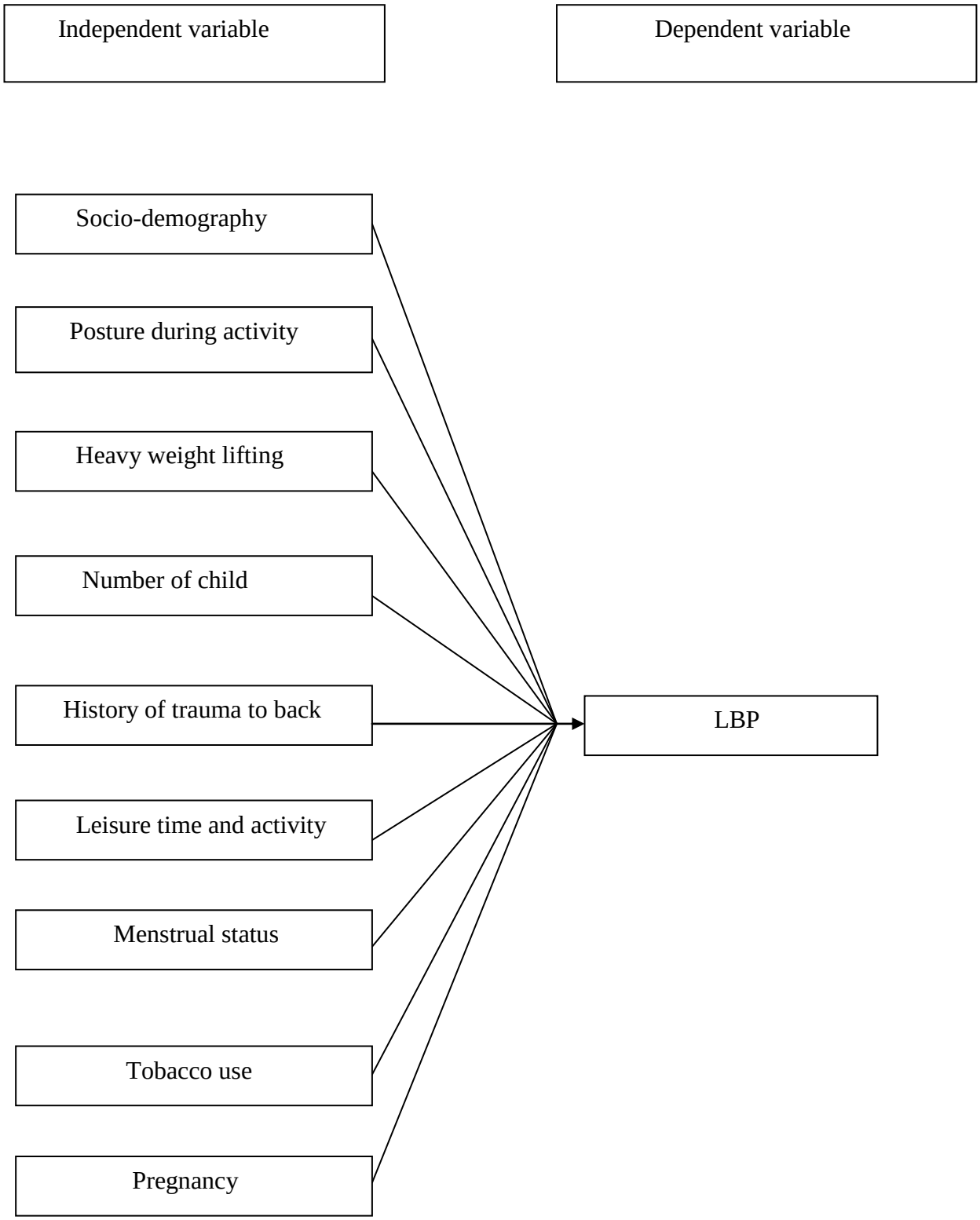
1.4.1 General objective

- To identify the prevalence of LBP among the housewives in Manikgonj

1.4.2 Specific objective

- To find out the number of housewives affected by LBP per hundred housewives.
- To measure the severity of pain by using VAS scale.
- To identify the distribution of LBP.
- To know the duration of pain.
- To identify the behavior of pain.
- To explore the socio-demography (age, economical status, marital status, educational background, living area) of the affected group.
- To determine the most common factors that are responsible for developing LBP among the housewives.
- To identify the available treatment received by the LBP affected housewives.

1.5 list of variable



1.6 Operational definition

Prevalence: Prevalence is the total number of cases of a disease present in a given population at a specific time. The prevalence of LBP among the housewives was determined by the number of housewives affected by LBP per hundred housewives, in this study.

Housewife: Housewife means a married woman, whose main occupation is caring for her family, managing household affairs, and doing housework, while her husband earns the family income.

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

Tobacco: Tobacco means the agent which contains nicotine and can be taken by smoking (cigarette) and non smoking way (gul, betel, zorda etc.).

Heavy weight lifting: Carrying children, collecting water with heavy jar and any kind of heavy objects.

Back trauma: Any kind of accident, trauma that directly affect the back.

CHAPTER -II LITERATURE REVIEW

Definition

We know that pain is a defense mechanism of the body to create an awareness of the subject to protect the injured part from further damage. LBP perhaps more accurately called lumbago or lumbosacral pain occurs below the 12th rib and above the gluteal folds (Sikiru and Hanif, 2010). 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 vertebra 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 and Andrews, 1984).

Function of the lower back

The low back, or lumbar area, serves a number of important functions for the human body. These functions include structural support, movement, and protection of certain body tissues. When we stand, the lower back is functioning to support the weight of the upper body. When one bends, extends, or rotates at the waist, the lower back is involved in the movement. Therefore, injury to the structures important for weight bearing, such as the bony spine, muscles, tendons, and ligaments, often can be detected when the body is standing erect or used in various movements. Protecting the soft tissues of the nervous system and spinal cord as well as nearby organs of the pelvis and abdomen is a critical function the lumbar spine and its adjacent muscles (Low Back Pain., 2011).

Classification

LBP is also categorized by the duration of symptoms as: Acute LBP (0–6 weeks); Sub acute LBP (7–12 weeks); Chronic LBP (>12 weeks) (Bunzli et al., 2010); Recurrent LBP: Acute LBP in a patient who has had previous episodes of LBP from a similar location, with asymptomatic intervening intervals (Alvarez, 2003).

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).

Causes

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).

Spondylolisthesis: Spondylolisthesis means forward displacement of one or more lumbar vertebrae. Spondylitic spondylolisthesis is the most common type and occurs because of a defect in the pars interarticularis, this type of spondylolisthesis is more common in patients who repeatedly lift heavy objects, thereby placing strain on this connection. Patients typically report LBP that is worse with activity and spine extension but is relieved by flexion.

Fracture: Spinal compression fractures often occur in patients older than 70 years who have a history of osteoporosis. Patients with a history of long-term corticosteroid use are also at risk. (Karnath, 2003). The mechanical causes of LBP also include degenerative disc or joint disease, congenital deformity (such as scoliosis, kyphosis, and transitional vertebrae) and instability (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 (Low Back Pain: Causes, 2011). 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).

Risk factor

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).

Age: Literature showed that the prevalence of low back pain increases with age. According to Urquhart et al., 2009, the risk of developing LBP among the women increased up to 50-59 years because they are more active in this time and after 60 years the frequency of LBP gradually decreases.

Level of Activity (Physical Fitness): 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). Cady et al., concluded from that 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 Mirtz and Greene 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, and whole body vibrations are considered to be risk factors for LBP (Plouvier et al., 2011). Heavy manual lifting is strongly associated 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: Predisposing Factors, 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 (Nisha et al., 2005). A Research showed that poor mental health status significantly

increased the risk of LBP by 1.11 times compared to 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 5^{th} to 7^{th} months of pregnancy (Cole, 2003, p. 405). According to Silman 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).

Prognosis

The prognosis for most patients with acute LBP is excellent. Due to a favorable prognosis in the acute stages, 80% to 90% of the patients will improve considerably within 6 to 8 weeks. The prognosis for chronic LBP is considerably less favorable causing potentially long-lasting suffering to the patient and significant socioeconomic costs (Aure et al., 2003). Acute LBP is usually considered to be self-limiting but 2–7% of people develop chronic pain (Burton, 2005). Though most individuals recover quickly from acute episode of LBP but the risk of recurrence is high: up to 60% within one year (Sharma et al., 2003) and up to 40% within six months. Similar to the initial episode, most recurrences have a favorable prognosis (Knight et al., 2010). But certain beliefs and behavioral or cultural factors may consistently predict poor outcomes. These include: a belief that back pain is harmful or potentially severely disabling, fear-avoidance behavior and reduced activity levels, a tendency to depressed mood and withdrawal from social interaction, an expectation of passive treatment, rather than a belief that active participation will help. Other factors that may interfere with recovery (anxiety, depression, unresolved occupational issues, prior disability claims (Rives and Douglass, 2004).

Diagnosis

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, 2011).

History: For diagnosis of LBP of the patient, history must include the following aspects besides general medical information: mode of onset of LBP; effect of posture, inactivity, exertion and rest, effect of coughing or sneezing, especially in respect of radiation of pain in the legs, pain at night, course of pain episodes, associated limb symptoms, effect on urinary and bowel function, history of spinal surgery, workplace situation, sick leave and compensation issues and psychological situation, signs of depression (Quittan, 2002).

Physical examination: The clinical examination must include inspection (deformities, paraspinal spasm, unusual hair growth, posture, muscular atrophy), palpation (trigger points, joint play) and percussion. The range of motion must be determined for flexion, extension, side-bending and rotation (Quittan, 2002). It s also important to observe the patient in standing, sitting, supine, and prone positions, observation of gait. The spine should also be examined at rest and in motion (Borenstein, 1998).

Neurologic examination of lower extremities: Muscle bulk, strength, tone, tendon reflexes, sensory examination (Karnath, 2003), straight leg raising is accomplished while the patient is in the seated and supine position (Borenstein, 1998). Besides these some special test should be done, these special tests include: X-rays, Bone scan, Magnetic Resonance Imaging (MRI), CT scan, Myelography, Discography, Electrodiagnostic procedures which include electromyography (EMG), nerve conduction studies, and evoked potential (EP) studies (Slowik, 2011).

Prevention

Workplace education on the prevention of low back pain may help to reduce the prevalence of this problem. The use of correct postures during activities of daily living will limit physical strain on the musculoskeletal system thus reduces the risk of LBP. Prolonged static 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. Always try to avoid high-heeled shoes. Learn and maintain how to lift objects 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, and vitamin D may help prevent osteoporosis, which can lead to compression fractures and LBP. Manage the stress in the life. Stop smoking or any kind of tobacco because smoking increases the risk of bone loss (osteoporosis) and increases the sensitivity to pain. Regular exercise to keep the back healthy and strong. Exercise programs that include aerobic conditioning and strengthening exercises can help reduce the recurrence of LBP (Low Back Pain – Prevention, 2011).

Management

The principles of treatment of LBP are to relieve pain in acute case, restore normal movement in chronic cases and recurrence is to be prevented (Ebnezar, 2005, p. 301). Management of LBP with physiotherapy (PT), chemotherapy and surgery has been well established. There was no sex difference in consultation and management of LBP, but there was a significant association between severity of LBP and type of management (Sikiru and Hanifa, 2010). The treatment protocols for LBP are given below:

Pharmacotherapy: Recommended pharmacotherapy included NSAIDs, muscle relaxants, analgesics and anesthetics and strong opioids and anti depressant in certain cases of LBP. Initial therapy start with acetaminophen, a nonsteroidal anti-inflammatory drug, or a cyclooxygenase- 2–specific inhibitor is recommended. Muscle relaxants (benzodiazepines) can be effective when there is significant muscle spasm present. Tramadol can be an effective analgesic and has mild selective serotonin reuptake inhibitor properties. There is extensive evidence which supports the effectiveness of short-acting opioids for moderate to severe pain. Long-acting

opioids are appropriate when other treatment modalities have been inadequate. If pain is not responsive to opioid therapy or functionality does not improve, then the opioid should be discontinued. Adjuvant tricyclic antidepressants and anticonvulsants are effective in patients with underlying depression or for the patient with neuropathic pain (Rives and Douglass, 2004).

According to a German study we found that 41% of with LBP said that they took NSAIDs for their LBP for more than a month of duration. Another study report that general practitioners in the UK prescribed NSAIDs to approximately 30% of patients with CLBP, muscle relaxants to 10% of these patients and antidepressants to 10% of these patients. Another study reported that 14% of adults aged 65 years and older with frequent back pain in Italy reported regular use of analgesics and or NSAIDs in the previous 2 weeks, with higher rates in women (17%) than in men (8%) (Juniper et al., 2009). Several systematic reviews have concluded that strong evidence supports the use of non-steroidal anti-inflammatory drugs for non-neuropathic low back pain, though the treatment effect is small and the evidence is greater for acute than chronic pain (Cohen et al., 2009). Recently, the use of tricyclic antidepressants for chronic back and leg pain has met with success, as well as the use of neurontin (Harf, 2004).

Physiotherapy treatment: Among current musculoskeletal interventions used to treat LBP, PT has the highest evidence of effectiveness in avoiding recurrence and chronic disability (Al-Eisa, 2010). Several recent reviews claim a strong evidence of effectiveness for exercise therapy in CLBP and moderate evidence of ineffectiveness in ALBP. Based on the clinical examination, the treatment methods are aimed to normalize function by means of spinal or peripheral joint manipulation and mobilization techniques, specific muscle stretching, and exercise to then affect spinal segment or peripheral joints area. Strengthening, stretching, mobilizing, co-ordination, and stabilizing exercises for the abdominal, back, pelvic, and lower limb muscles, this should be given according to the clinical findings of the patient (Aure et al., 2003), and when able to swim hydrotherapy program should be recommended. Traction has been a mainstay of conservative treatment, but studies have failed to demonstrate any significant benefit from lumbar traction (Harf, 2004).

In practice guidelines published jointly by the American College of Physicians and the American Pain Society, fair to good evidence is cited supporting numerous alternative treatments for chronic LBP and sub acute LBP, including acupuncture, yoga, massage, spinal manipulation, and functional restoration. For acute, non-specific back pain, evidence of efficacy was found only for spinal manipulation and superficial heat (Cohen et al., 2009). Beside this the following treatment also can be given: Postural retraining, along with general conditioning, education in accurate body mechanics and techniques to prevent recurrence of back injury and ergonomic advice (Jenner, 2007). In case of acute LBP some advice should be followed in associated with the intervention, which are: stay active and continue ordinary activity within the limits permitted by pain, avoid bed rest, return to work early, which is associated with less disability (Bach, 2009). There are some red flag sign for low back pain in which the physiotherapy treatment is contra indicated. So during treating the patients with LBP, as a physiotherapist the following red flag sign should be considered: Severe or progressive neurological deficit, recent bowel or bladder dysfunction, saddle anesthesia, age >50 years, , past or present cancer history , insidious onset of pain not relieved with rest or awakens a patient at night and the pain is not related to movement or positioning, worsening when supine, constitutional symptoms (fever, weight loss: over 10 pounds within 3 months which is not directly related to a change in activity or diet). Male with diffuse osteoporosis or compression fracture, history of minor or major trauma, history of long time steroid use (Bach, 2009).

Electrotherapy: The ultrasound, interferential therapy, short wave diathermy, transcutaneous electrical nerve stimulation (TENS) and low level laser therapy (Jenner, 2007). TENS and similar electrotherapeutic procedures are widely used for the treatment of chronic LBP. Low-frequency electrical stimulation of the back muscles over the lower lumbar paraspinal muscles for 30 min twice a day may help to increase the strength of this muscle group (Quittan, 2002).

Nerve blocks: In patients whose symptoms persist after six weeks, nerve blocks may offer diagnostic and therapeutic benefits. For lumbar epidural steroid injections, systematic reviews found moderate evidence that fluoroscopically guided procedures can provide short term relief for radicular pain secondary to a herniated disc and

mixed evidence for long term (six months or longer) benefit. The evidence is stronger for transforaminal injections than for caudal or interlaminar epidurals and stronger for subacute than chronic pain (Cohen et al., 2009).

Surgery: Usually surgery rarely needed for the patient with LBP or sciatica. Only 5-10% of patient needs surgery who have LBP. Conservative treatment or exercises often are as effective in relieving or preventing pain from returning. Surgery usually is only considered after several months of conservative treatment have failed to ease the pain of the patient (Harf, 2004). Besides these , in 5% of the cases with the below mentioned indications, surgery may be required: progressive neurological deficit, cauda equine paralysis, recurrent episodes of incapacitating sciatica, pain unrelieving by complete bed rest from activity (Ebnezar, 2005,p. 309). Patients who have an acute herniated disc that has failed six weeks of conservative therapy, including epidural steroid injection, and who have persistent back and leg pain are candidates for a microdiscectomy. The commonly used surgical methods are arthroscopic discectomies, percutaneous discectomies, decompressive surgery, laminectomy, transforaminal lumbar interbody fusion (Harf, 2004).

CHAPTER-III METHODOLOGY

3.1 Study design

The aim of this study was to find out the prevalence of LBP among the housewives. For this reason, the investigator choose a cross sectional study because the cross sectional study is the best way to determine prevalence. The cross sectional study is called “prevalence study” (Park, k 2000 pp. 59) and this can also be used to identify the associations. The most important advantage of cross sectional study is it need not more time and also cheap. As there is no follow up, fewer resources are required to run the study (Mann, 2003). A cross-sectional study is a descriptive study which providing a "snapshot" of the frequency and characteristics of a disease in a population at a particular point in time.

3.2 Study sites and Study area

As this was a survey on prevalence of LBP among the housewives, so the study was conducted in three selected (both village and town) area of Manikgonj. This study was conducted in musculoskeletal area.

3.3 Study population and sampling

A population refers to the members of a clearly defined set or class of people, objects or events that are the focus of the investigation. So all of housewives of Bangladesh who fulfill the inclusion and exclusion criteria of this study are the population of this study. But it was not possible to study the total population within the time of this study, so the investigator took only 70 housewives as sample who were selected conveniently from selected area of Manikgonj according to the inclusion and exclusion criteria. The investigator use the convenience sampling technique due to the time limitation and also for the small size of population and as it is the one of the easiest, cheapest and quicker method of sample selection.

3.4 Inclusion criteria of the study

- Housewives of all age group will be selected- to explore the relationship between age and prevalence of LBP among the housewives, so samples were selected from all age group.
- Subject who were willing to participate in the study- Otherwise they will not give exact information that will helpful to the study.

3.5 Exclusion criteria of the study

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

3.6 Formula of sample size calculation

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

Here,

$\frac{z(1-\alpha/2)}{d}$ =confidence level at 95% (standard value of 1.96).

n = required sample size

p = prevalence of LBP in literature

q= (1-p)

d = margin of error at 5% (standard value of 0.05)

According to this formula of sample size calculation, the actual sample size was about 372 but due to the limitation of time the investigator took only 70 samples conveniently from the population for this study.

3.7 Data collection method and tools

In this study data were collected by using both structured and semi structured mixed type questionnaire. Mixed type questionnaire include only close ended questions. Firstly, the investigator introduced herself and describe the project study as well its purpose. The investigator also provided consent form to the participant and explained that to build a trustful relationship. After obtaining consent by sign investigator asked pre-determine question to the participant. The investigator gave

time to understand the questions fully so that they could be answered accurately. The Interview was conducted in Bengali so that participants could understand easily. During the interview, the investigator wrote down field notes and observed the facial expression to collect accurate data from the participants because in grounded theory of qualitative research observation and interviewing both were commonly used for data collection (Ploeg, 2009). During the interview investigator use pen, paper, written questionnaire, file, visual analog scale (VAS scale).

3.8 Data analysis

Data was numerically coded using an SPSS version 16 software program. Descriptive statistic was used for data analysis which focused through table, pie chart and bar chart.

3.9 Inform consent

Baily (1997) claimed that before conducting research with the respondents, it is necessary to gain consent from the subjects. For this study participants were selected conveniently for this study according to the inclusion and exclusion criteria and inform the study objective properly by using consent form. Participant and investigator signed in willingly into the consent form. By the consent form the participants were informed that they were completely free to decline answering any question during data collection and also free to withdraw their agreement and participation any time from this study. The participants were informed clearly that the confidentiality should be maintained strictly and information might be published in any presentations or writing but they will not be identified. And it is also ensure that the investigator will be available at any time to answer any additional questions in regard to the study.

3.10 Ethical consideration

It should be ensured by the investigator that it would maintain the ethical issue at all aspects of the study. Because it is the crucial part of the all form of research. At first to conduct the study, the ethical committee checked the proposal and granted the proposal then the investigator started the study. Permission was also taken from all the participants in the form of written consent during data collection. During the course of

the study, investigator gave the consent form to the interested participant. They were informed that their participation was fully voluntary and they had the right to withdraw or discontinue from this study at any time without any hesitation or risk. Participants were also informed that confidentiality would be maintained and client codes were used to keep clients identity invisible. They were assured that taking part in this study would not cause any harm to them but the result of the study would be beneficial for them.

3.11 Limitation of the study

There were a number of limitations and barriers in this research project which had affect 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 selected area of Manikgonj and the sample size was too small, so the result of the study could not be generalized to the whole population of housewives in Bangladesh.
- This study has provided for the first time data on the prevalence of LBP among the housewives 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 her. So the researcher had limited experience with techniques and strategies in terms of the practical aspects of research. As it was the first survey of the researcher so might be there were some mistakes that overlooked by the supervisor and the honorable teacher.

CHAPTER-IV: RESULTS

The aim of this study was to explore the prevalence of LBP among the housewives. 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 investigator collected the descriptive data from the community and calculated as percentages and presented by using bar and pie chart and in table, for this study 70 housewives were taken as a sample from both rural (50 participants) and urban (20 participants) area of Manikgonj were taken to explore the prevalence of LBP among the housewives.

Prevalence of LBP

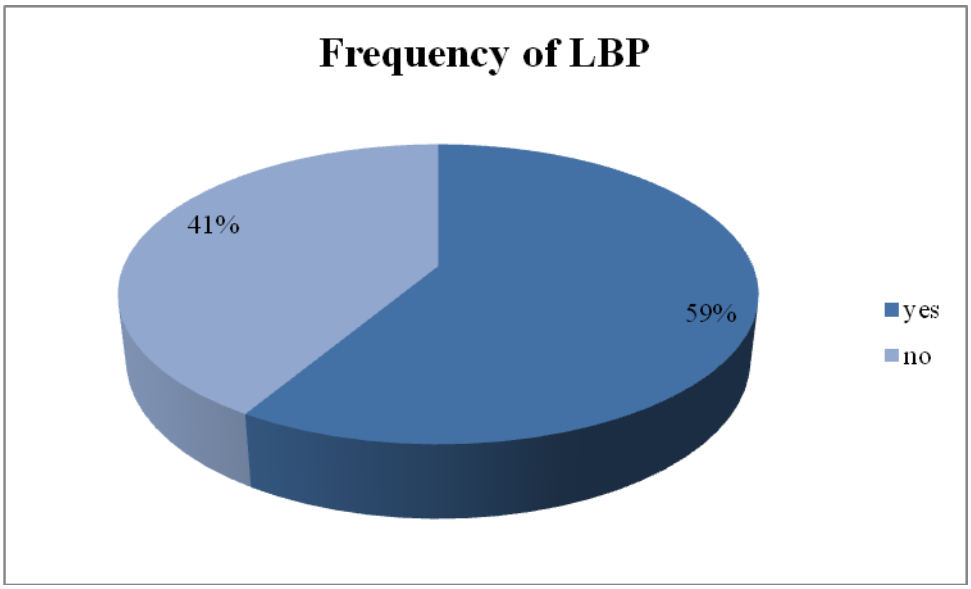


Figure- 4.1: The frequency of LBP per hundred housewives

Among all of the (70) participants 58.6% (n=41) participants had been suffered from LBP and 41.4% (n=29) participants had not been suffered from LBP.

Severity of pain

Severity in VAS scale	Frequency (n)	Percentage (100)
1-4	24	34.3
5-7	17	24.3
8-10	0	0

Table- 4.1: Information about the severity of pain of the affected group

Among the affected participants who were suffering from LBP, the severity of pain in VAS scale was in between 1-4 (mild pain) in 34.3% (n=24) housewives, in between 5-7 (moderate pain) in 24.3% (n=17) housewives and there were no participant who had score in between 8-10 (severe pain) in VAS scale.

Distribution of pain

Radiation to leg	Frequency (n)	Percentage(100)
Yes	13	18.6
No	28	40

Table-4.2: Information about the distribution of pain of the affected group

Among the affected participants who were suffering from LBP, 18.6% (n=13) participant had suffered from radiating pain and 40% (n=28) had suffered from central low back pain.

Duration of pain

Duration of pain	Frequency (n)	Percentage (100)
<6 month	6	8.6
6 month to 1 year	5	7.1
>1 year	30	42.9

Table-4.3: Information about the duration of pain of the affected group

Among the affected participants who were suffering from LBP, 8.6% (n=6) housewives suffered from LBP for less than 6 months, 7.1% (n-5) housewives suffered from more than 6 months but less than one year and 42.9% (n=30) housewives suffered from LBP for more than year of duration.

Behavior of pain

Behavior of pain	Frequency	Percentage
Intermittent	24	34.3
Constant	17	24.3

Table-4.4: Information about the behavior of pain among the affected group

Among the affected participants who were suffering from LBP, 34.3% (n=24) housewives felt intermittent and 24.3 (n=17) housewives felt constant LBP.

Frequency of taking treatment

Treatment take or not	Type of treatment	Frequency (n)	Percentage (100)	Total
Yes	Medication	16	22.9	63.4%
	Physiotherapy	7	10.0	
	Surgery	0	0	
	Traditional	2	2.9	
	Others	1	1.4	
No		15	36.6	36.6%

Table-4.5: Information about the available treatment taking by the affected group

Among the affected participants who were suffering from LBP, 63.4% (n=26) participant took treatment and remaining 36.6% (n=15) participants did not take any treatment for their pain. Among participants who took treatment for their LBP, 22.9% (n= 16) participants took medication, among this only 5.7% (n=4) used the medication according to doctors prescription and remaining 17.1% (n=12) used self prescribe medication, 10% (n=7) participants took PT, 2.9% (n=2) participants took traditional treatment, 1.4% (n=1) participants took others treatment and there were no participants who got surgical treatment for their LBP.

Socio-demographic information of the affected group

Age

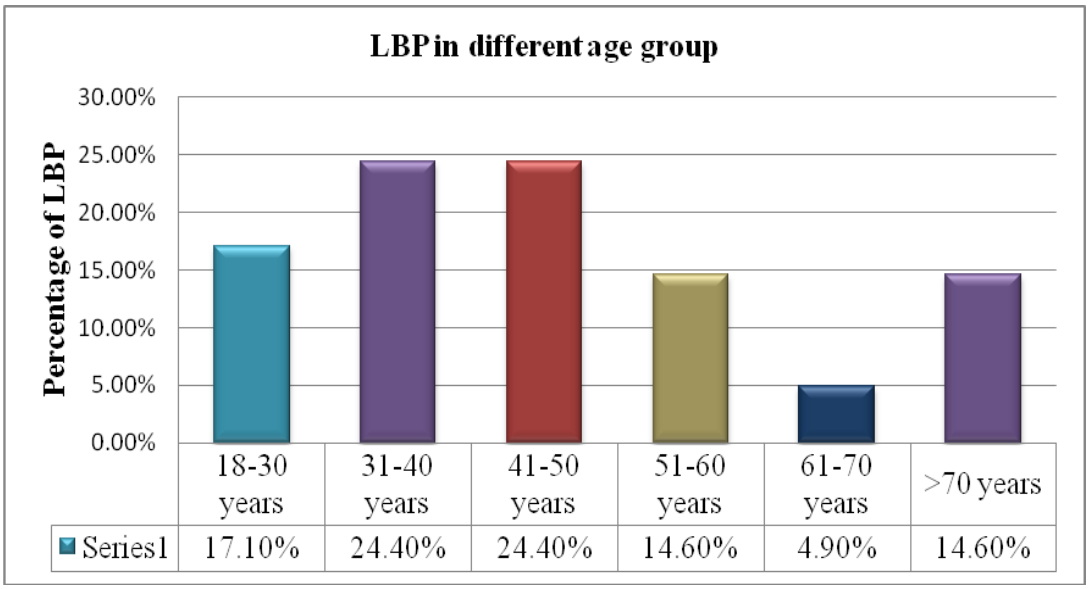


Figure- 4.2: Age of the affected group

Among the respondent participants who were suffering from LBP, the lowest age was 18 and highest age was 75 years, the mean age was 40.41± (SD 15.553). The frequencies of LBP among the different age group were: 18–30 years: 17.1%; 31–40 years: 24.4%; 41–50 years: 24.4%; 51-60 years: 14.6%; 61–70 years: 4.9%; above 70 years: 14.6%. According to data view, the investigator could say that the frequency of LBP among the housewives was highest in between the 31-50 years. Beside this the mean age of the affected group was 47.34 years ± (SD 1.51) and the mean age of the unaffected group was 29.86± (SD 8.83). So we could come into conclusion that age had a positive relation with the development of LBP.

Educational level of the affected group

Educational level	Frequency (n)	Percentage (100)
Illiterate	17	41.5
Primary	7	17.1
Secondary	6	14.6
S.S.C.	2	4.9
H.S.C.	2	4.9
Graduate	4	9.8
Masters	3	7.3

Figure- 4.3: The educational level of the affected group

Among the affected participants who were suffering from LBP, 41.5% (n=17) housewives were illiterate, 17.1% (n=7) housewives were primary pass, 14.6% (n=6) housewives were secondary pass, 4.9% (n=2) housewives were S.S.C. pass, 4.9% (n=2) housewives were H.S.C. pass, 9.8% (n=4) housewives were graduate, 7.3% (n=3) housewives were completed masters. So according to data view it was concluded that the educational level of the participant did not have any effect on developing LBP among the housewives.

Family income

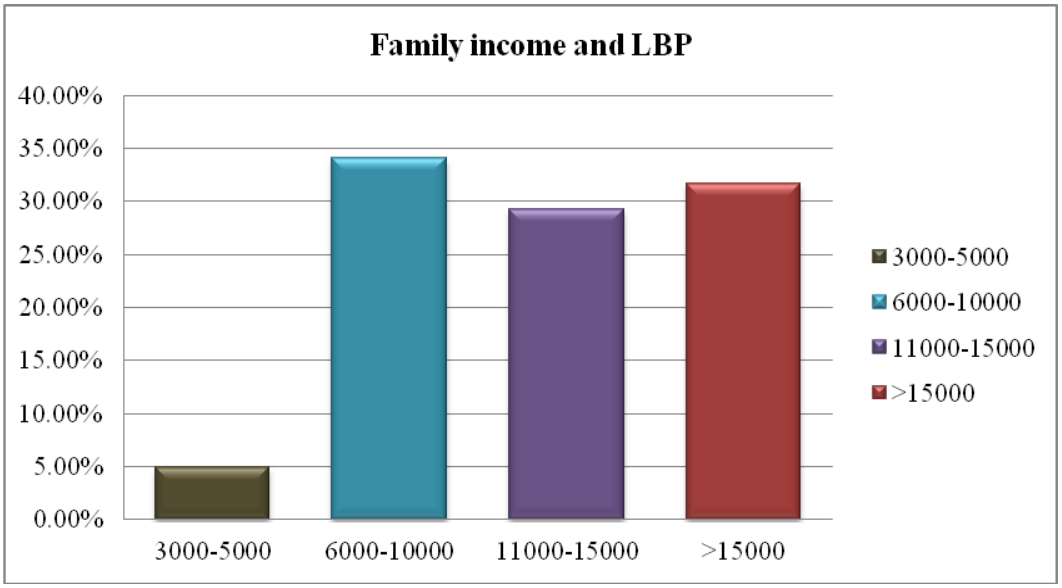


Figure- 4.4: The monthly income of the affected group

Among the affected participants who were suffering from LBP, 4.9% (n=2) participant's monthly family income was in between 3000-5000 taka, 34.1% (n=14) participant's monthly family income was in between 6000-10000 taka, 29.3% (n=12) participant's monthly family income was in between 11000-15000 taka, 31.7% (n=13) participant's monthly family income was more than150000 taka.

Living area

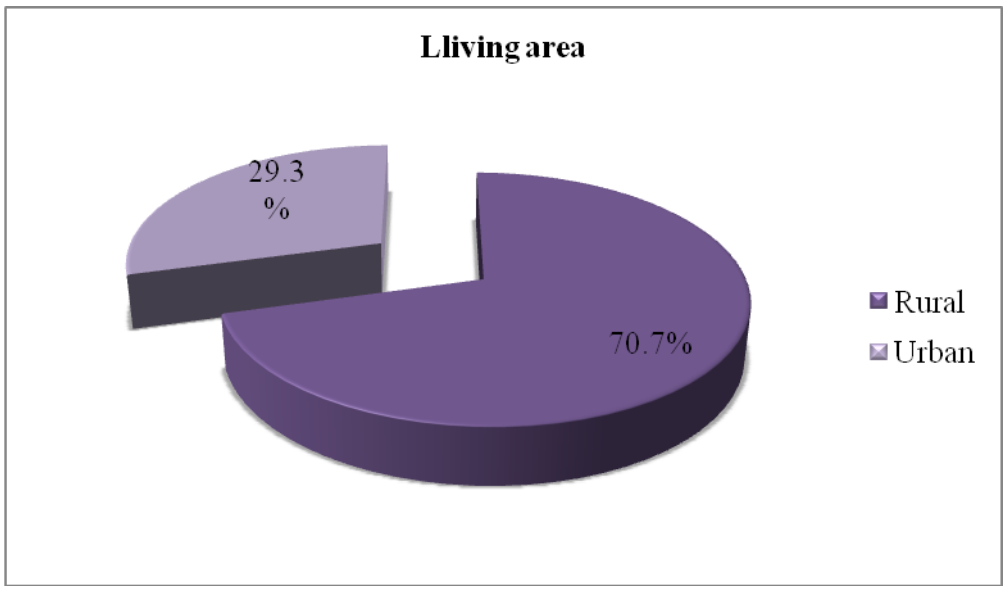


Figure-4.5: The living area of the affected group

Among the affected participants who were suffering from LBP, 70.7% (n=29) participants lived in rural and 29.3% (n=12) participants lived in urban area. The investigator could conclude from this that the rural housewives were more suffered from the LBP than the urban housewives.

Marital status

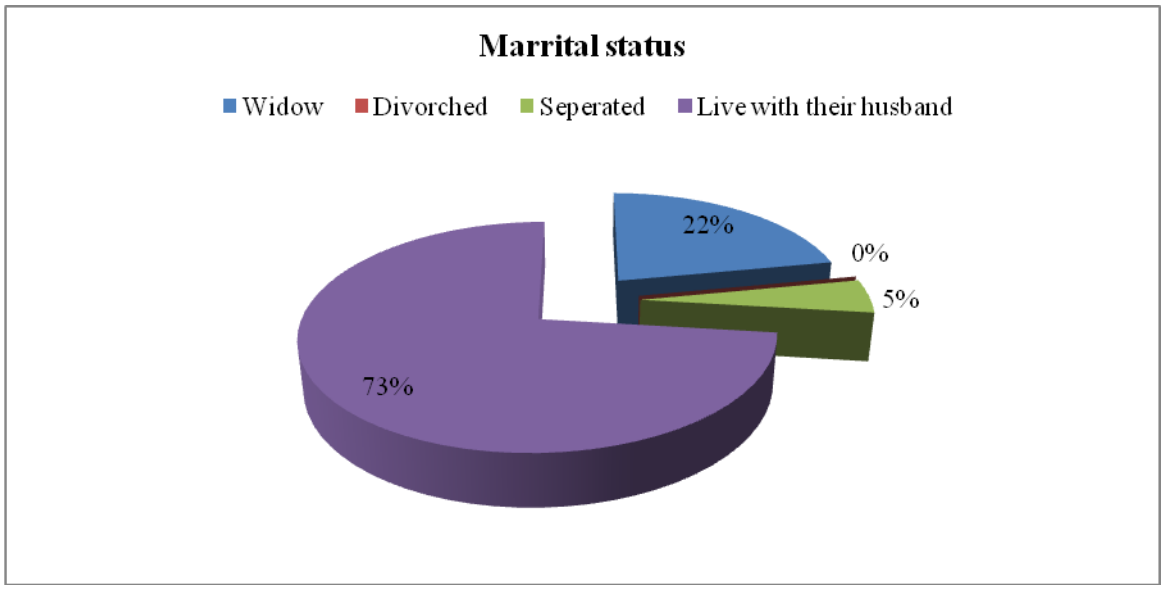


Figure- 4.6: The marital status of the affected group

Among the affected participants who were suffering from LBP, 22% (n=9) were widow; 0% (n=0) were divorced; 4.9% (n=2) were separated and 73% (n=30) lived with their husband.

Common factors for developing LBP

Posture during activity

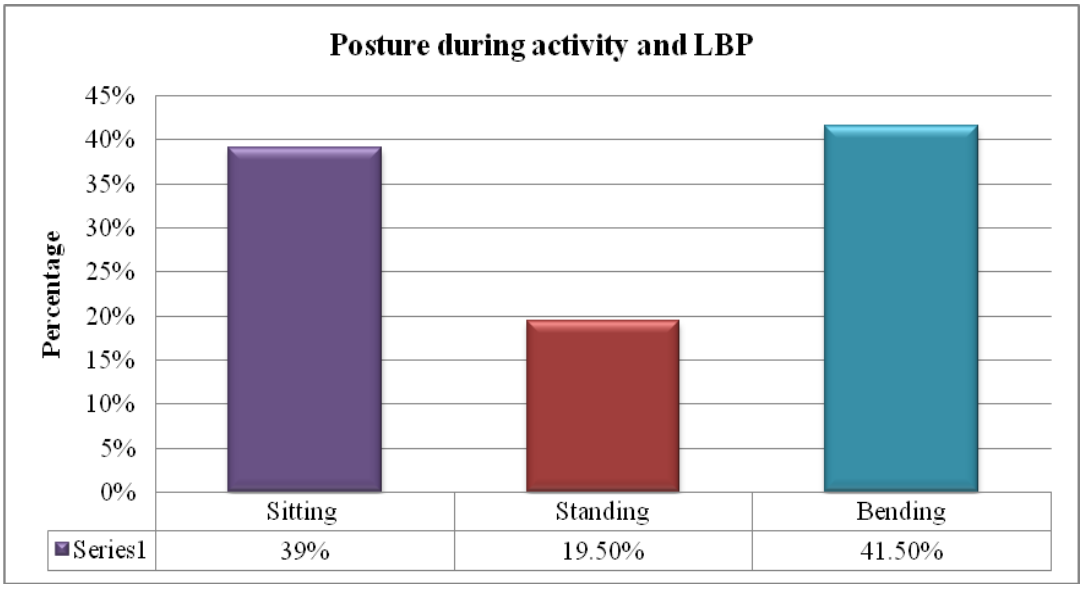


Figure- 4.7: The posture maintain by the affected group during ADLs

Among the affected participants who were suffering from LBP, 39% (n=16) participants maintained sitting, 19.5% (n=8) participants maintained standing and 45.5% (n=17) participants maintained bending posture most of the time during the ADL. So the investigator found from this study that the participants who maintained the bending had the height frequency of LBP followed by sitting and standing position.

Number of child and process of child delivery

	Count	Frequency of LBP (n)	Percentage (100)
Number of child	Only one	5	12.2%
	Two	11	26.8%
	Three	11	26.8%
	>Three	12	29.3%
	No child	2	4.9%
Process of child delivery	Normal	28	71.8%
	Caesarian	11	28.2%

Table-4.6: Information about the number of child and process of delivery and LBP

Among the respondent participants who were suffering from LBP, 12.2% (n=5) participants had only one, 26.8% (n=11) participants had two, 26.8% (n=11) participants had three, 29.3% (n=12) participants had more than three child and 4.9% (n=2) participants had no child and 71.8% (n=28) felt LBP who delivered their child in normal physiological process but about 28.2% (n=11) participant felt LBP who had been delivered the child by caesarian section**.** According to data view increasing the number of child is proportional to the increasing the frequency of LBP and the process of delivery had not any effect on LBP.

Pregnancy

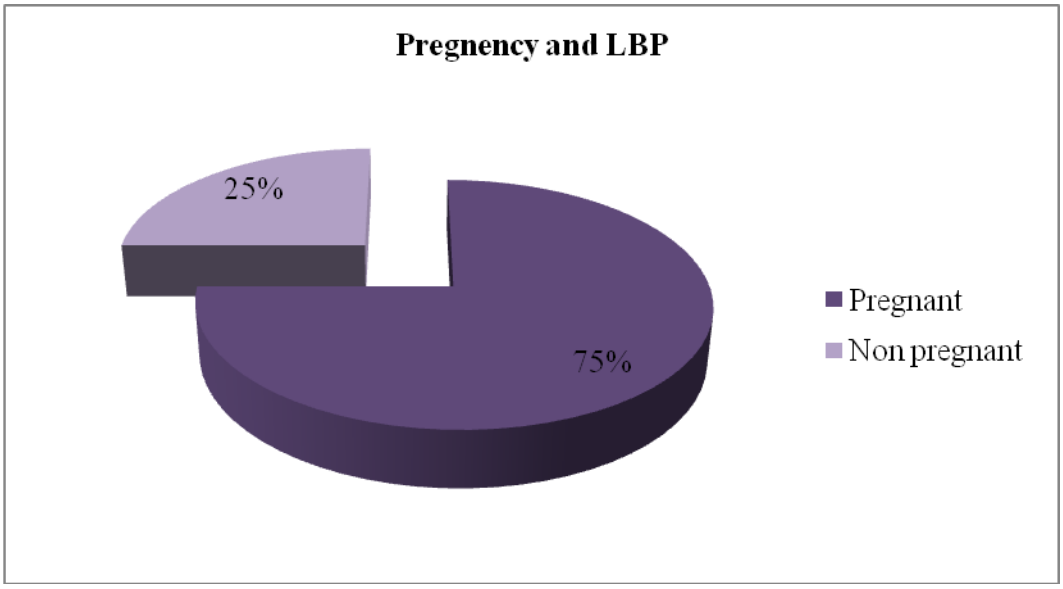


Figure-4.8: The pregnancy status of the affected group

Among the all of the participants of this study only 5.7% (n=4) were pregnant and remaining 94.3% (n=66), among the pregnant housewives 75% (n=3) participants had LBP and 25% (n=1) participants had no LBP. Showing the result of this study the investigator could be come into conclusion that the pregnancy increases the risk of LBP among the housewives.

Menstrual status

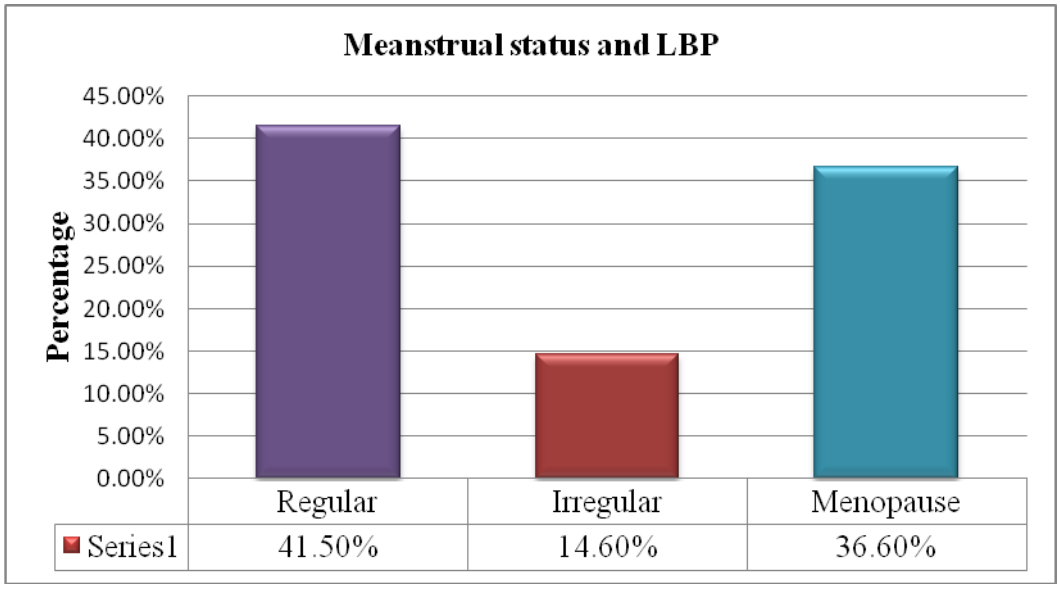


Figure- 4.9: The menstrual status of the affected group

The menstrual status of the affected participants who were suffering from LBP, 41.5% (n=17) regular, 14.6% (n=6) irregular and among 36.6% (n= 15) housewives menopause had started.

Heavy weight lifting

Weight lifting	Frequency (n)	Percentage (100)
Yes	21	51.2
No	20	48.8

Table-4.7: Information about the history of weight lifting and LBP

Among the affected participants who were suffering from LBP, 51.2% (n= 21) housewives said that they need to heavy weight lift in their ADL and 48.8% (n=20) housewives need not to do that. So according to data view, the frequency of LBP was slightly higher among the housewives who need to heavy weight lift.

History of previous back trauma

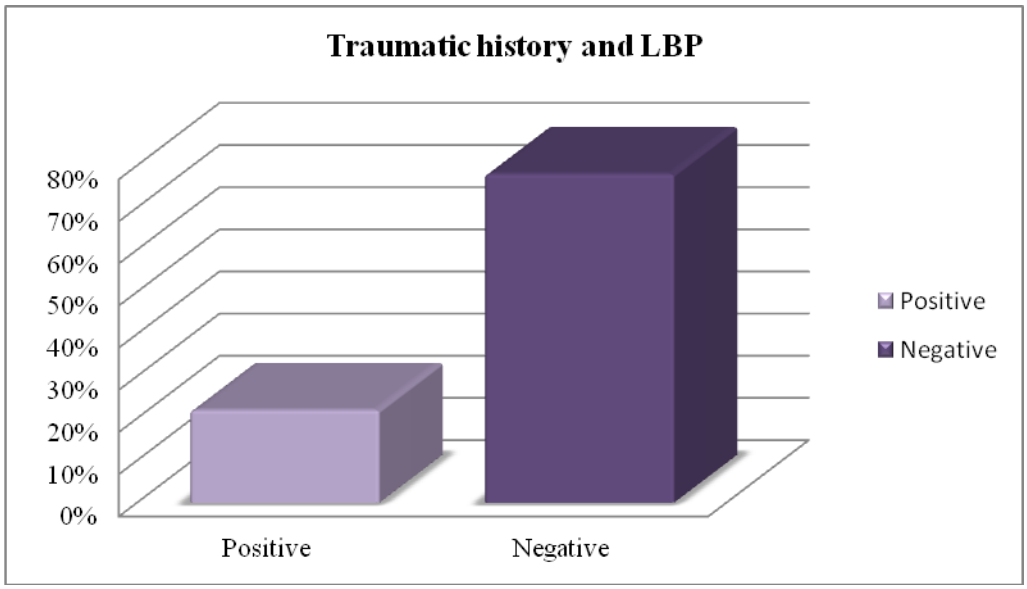


Figure- 4.10: The of history of back trauma and LBP

Among the respondent participants who were suffering from LBP, 22% (n=9) participants had positive previous traumatic history and 78% (n=32) participants had negative previous traumatic history on back. So according to data view, previous history of trauma had not any effect on LBP.

Tobacco use

Tobacco use or not	Duration of use	Frequency (n)	Percentage (100)
Yes (21) 51.2%	Current user	1	2.4%
	Former user	4	9.8%
	Regular user (>1 year)	16	39%
No		20	48.8%

Table- 4.8: Information about the tobacco use and LBP

Among the respondent participants who were suffering from LBP, 51.2% (n=21) used tobacco and 48.8% (n=20) never used tobacco. Among the51.2% (n=21) tobacco user who suffered from LBP 2.4% (n=1) participants were current user, 9.8% (n= 4) were former user and 39% (n=16) were regular user. According to data view, it was found that the frequency of LBP more among the tobacco user (51.2%) as well as increase the duration of tobacco use was increased the frequency of developing LBP.

Leisure time

		Frequency (41)	Percentage (100)
Leisure time get or not	Get	33	80.5
	Not get	8	19.5
Leisure activity	Gardening	4	9.8
	Sewing	3	7.3
	Watching TV	12	29.3
	Reading book	2	4.9
	Sleeping	2	4.9
	Gossiping	8	19.5
	Others	2	4.9

Figure- 4.9: Information about the leisure time and LBP

Among the respondent participants who were suffering from LBP, 80.5% (n=33) participants got and 19.5% (n=8) participants did not get leisure time. The housewives passed their leisure time who got leisure time (80.5%) are describe as: Gardening: 9.8% (n=4); sewing: 7.3% (n=3); watching TV: 29.3% (n=12); reading book: 4.9% (n=2); sleeping: 4.9% (n=2); gossiping: 19.5% (n=8); others: 4.9% (n=2). According to data view, the investigator showed that getting leisure time did not have any effect on developing LBP; it was found that the housewives were more affected who were watch TV (29.3%) during leisure time and followed by who passed their time by gossiping.

CHAPTER-V: DISCUSSION

The investigator used a cross sectional study to find out the prevalence of LBP among the housewives. The result of this study showed that 58.6% housewives suffered from LBP in Manikgonj during the course of the study. According to a prospective observational study conducted in the Department of Physical Medicine and Rehabilitation, Bangabandhu Sheikh Mujib Medical University, Dhaka, Bangladesh from April 2006 to March 2007, among the102 patients with chronic LBP, the prevalence of LBP among the housewives was 58.8% (Shakoor et al., 2007). According to a field screening investigation performed in a total of 75 areas in including the city center, 18 districts, and 57 associated small municipalities, 64.2% housewives suffered from LBP among the general Afyon population (Tucer et al., 2009). Again according to a Chinese study published in 2002 the prevalence of LBP among the housewives was 52.3% (Yip et al., 2002). Which was nearly similar to the result of this study.

In this study it was found that among the sufferer group most of the housewives more than one year of duration (42.9%), intermittent (34.3%), suffered from central pain (40%). In case of severity which was measured by using VAS scale, most of the participants suffered from mild to moderate type back pain not by the severe type pain. Only 10% housewives took PT treatment for their back pain and the frequency of taking physiotherapy was higher among the participants with high socio-economical status (80%).

It was also found that the LBP among the housewives was more common in 31-50 years. According to Urquhart et al., 2009 (a community based survey with 506 women whose age range were 24-80 years) report that the frequency of LBP was more frequent in 50-59 years. According to the perspective of our country degenerative change shows earlier, especially among the women due to poor nutritional as well as geographical causes, so the investigator could said that the literature support the result of this study.

This study showed that the illiterate housewives were more affected by LBP (41.5%) but economical status of the participants did not had any effect in the development of LBP among the housewives but according to Tucer et al., 2009, low educational and socioeconomic status had the high risk of LBP, again according to a National Health Survey (2008), among 15 534 subjects, in France it was found that low back pain was strongly associated with level of education of the participants (Leclerc et al., 2008). In this study the most of the educated housewives (graduate or masters) age range in between 30-50 years, according to literature this are the more venerable group, so this study cannot support the literature.

This study also showed that the urban participants were more affected than the rural, among the suffering group 70.7% housewives lived in rural area and 29.3% housewives lived in urban area. According to a cross-sectional self-report survey, conducted in Australia to determine the extent of risk factors and their association with LBP in the study community, LBP is the most prevalent musculo-skeletal condition in rural and remote communities (Vindigni et al., 2005). Again a criteria-based review of the literature in LBP in low- and middle-income countries published in USA (1997) showed that within low income countries, LBP rates are higher among urban populations than among rural populations (Volinn, 1997). In this study the ratio of the rural and urban participants were not similar, investigator select rural participants more (50), so the result of this study did not support the literature. Literature showed that Low back pain (LBP) is the most prevalent musculo-skeletal condition in rural and remote communities.

According to this study, 36.6% post menopausal housewives suffered from LBP. According to a study conducted in the Pleven and Stara Zagora university hospitals, using interviews and a detailed analysis of their medical documentation showed that only 23.7% post menopausal women experienced pain of varying intensity and duration, it was also showed that intensity of the pain in postmenopausal women depends on their BMI, and the duration and the type depend on the obesity spots (Nikolov et al., 2009). Beside this, a case control study in China (2002) also showed that there was no conclusive association between either the LBP or menopausal status, history of amenorrhea, multi-parity, contraceptive use (Yip et al., 2002).

It was found that the 75% pregnant participant suffered from LBP. The number of child had an effect on LBP but the process of delivery did not influence the development of LBP, According to a cross sectional study in Iran (2010) among the 89.3% housewives the prevalence of LBP during pregnancy was found 57.3% (Ansari et al. 2010). Again a Turkish study showed that more than 50% of the pregnant had LBP and multiparity worsens the situation among the Turkish population (Tucer et al., 2009). Participants were more affected who had negative history than positive history of pervious back injury. But according to a survey among the rural and urban area of Southwest Nigeria low back pain is associated with a history of trauma (Omokhodion, 2002).

Here the investigator found that the frequency of LBP, increased among tobacco user and 51.2% of tobacco user suffered from LBP, it was also found that the duration of tobacco use had an impact on the LBP. According to a Malaysian study (2010) tobacco consumption was not significantly associated with LBP, but after 27 study Frank et al. showed that tobacco consumption was significantly associated with LBP and herniated disc conditions (Wong et al., 2010).

According to this study, investigator showed that regular heavy weight lifting influenced the development of LBP. Most of the literature also showed that the heavy weight lifting is one of the risk factors of LBP (Bener et al., 2002, Sikiru and Hanif, 2010). Among the participant who felt LBP most of them were maintain the bending (41.5%) followed by sitting (39%) and standing (19.5%) during working or most of the time. A Population-Based Case-control Study in Hong Kong reported that an association between continuous sitting posture and LBP was controversial, with some studies revealed an association, whilst others did not. Moreover, an association between “prolonged walking or standing” for a period of at least two hours at work and LBP (Yip et al., 2002). A cross-sectional study among health care providers working at one hospital with 931 health care providers reported that prolonged standing position and leaning forward are frequently associated with LBP (Wong et al., 2010). In this study most of the participants work in low agronomical level that means sitting position (37.1%) than the standing position (22.9%) that is why the result of this study did not support the literature.

In this study, it was found that the getting leisure time had not any effect in LBP, but it was also found that housewives who watch TV and gossip in their leisure time were more affected. Literature showed that epidemiological evidence, on the role of leisure activities on preventing the occurrence of back disorders, was inconsistent. Some studies revealed association between low leisure activities and LBP. Whilst other studies have shown no relationship between leisure activities and back morbidity (Yip et al., 2002).

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. The prevalence and consequences of low back pain is higher in the non-working group in comparison with the working population, most of these non-working women were housewives. More than a quarter of the total burden of low back problems is found in the non-working population, among this 50% is women. In the work place, the housewives are vulnerable to LBP during the course of their daily work due to the poor ergonomical setting. From this study, it was found that the more than half of the housewives (58.6%) suffer from LBP in our country. Among these most of the housewives suffer from mild to moderate type of LBP rather than the severe LBP. 42.9% suffered from central and 18.6% suffered from radiating pain and most of the participants were suffering from LBP for more than 1 year (40%) of duration. Among the affected group 63.4% take treatment, among those who were taken treatment for their LBP but only 10% took PT. The investigator has tried to show the prevalence and characteristic of LBP among the housewives and the possible risk factors for the LBP according to participants view. According to the participant view some socio-demographic characteristic (age, living area and marital status), number of child, prolong bending posture, tobacco use as well as duration of tobacco use and the pregnancy had a positive effect on the LBP among the housewives.

6.2 Recommendation

The aim of the study was to find out the prevalence of LBP among the housewives. Though the study had some limitations but investigator identified some further step that might be taken for the better accomplishment of further research. The main recommendations would be as follow:

- The random sampling technique rather than the convenient would be chosen in further in order to enabling the power of generalization the results.
- The duration of the study was short, so in future wider time would be taken for conducting the study.
- Investigator use only 70 participants as the sample of this study, in future the sample size would be more.
- The ratio of rural and urban participants were not equal, in case of further the equality of the rural and urban participant should be maintained for the accuracy of the result.
- In this study, the investigator took the housewives only from the only two selected area of Manikgonj as a sample for the study. So for further study investigator strongly recommended to include the housewives from all over the Bangladesh to ensure the generalizability of this study.

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Appendix

মৌখিক অনুমতি পত্র

(অংশগ্রহকারীকে পড়ে শোনাতে হবে)

আস্সালামু আলাইকুম/ নমস্কার, আমার নাম সোনিয়া আক্তার, আমি এই গবেষণাটি বাংলাদেশ হেলথ্ প্রফেশনস ইনস্টিটিউট (বি এইচ পি আই)-এ করছি যা আমার কোর্সের অধিভূক্ত। যার শিরোনাম হল- 'গৃহিণীদের কোমর ব্যাথার হার' আমি এক্ষেত্রে কিছ ব্যক্তিগত এবং কোমর ব্যাথা সম্পর্কে আনুষঙ্গিক কিছু তথ্য জানতে চাচ্ছি। যা আনুমানিক ২০-৩০ মিনিট সময় নিবে। আমি আপনাকে অবগত করছি যে, এটা আমার অধ্যয়নের সাথে অন্তর্ভুক্ত নয়। তাই এই গবেষণায় অংশগ্রহণ আপনার বর্তমান এবং ভবিষ্যৎ চিকিৎসায় কোন প্রভাব ফেলবে না। আপনি যে সব তথ্য প্রদান করবেন তার গোপনীয়তা বজায় থাকবে এবং আপনার প্রতিবেদনের ঘটনাপ্রবাহে এটা নিশ্চিত করা হবে যে, এই তথ্যে উৎস অপ্রকাশিত থাকবে।

এই অধ্যয়নে আপনার অংশগ্রহণ স্বেচ্ছাপ্রণোদীত 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 সাক্ষাৎকারের সময় কোন উত্তর না দিতে চাওয়ার অধিকারও আপনার আছে।

এই অধ্যয়নে অংশগ্রহণকারী হিসেবে যদি আপনার কোন প্রশ্ন থাকে তাহলে আপনি আমাকে এবং / অথবা ওবায়দুল হক, কোর্স সমন্বয়কারী, ফিজিওথেরাপী বিভাগে যোগাযোগ করতে পারেন।

এটা শুরু করার আগে আপনার কি কোন প্রশ্ন আছে?

আমি আপনার অনুমতি নিয়ে এই সাক্ষাৎকার শুরু করতে যাচ্ছি?

হ্যাঁ ☐ না ☐

সাক্ষাৎকারীর স্বাক্ষর ঃ.....

VERBAL CONSENT FORM

(Please read out to the participant)

Assalamualaikum/Namasker, my name is Sonia Akter, I am conducting this study for partial fulfillment of Bachelor of Science in Physiotherapy degree, titled "Prevalence of low back pain among the housewives" from Bangladesh Health Professions Institute (BHPI), University of Dhaka. I would like to know about some personal and other related information about low back pain. You will answer some questions which are mention in this form. 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. 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. 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 me and Mohammad Anwar Hossain, Assistant Professor and Head of the Physiotherapy Department BHPI, CRP, Savar, Dhaka.

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 _____

বাংলা প্রশ্নাবলী

পরিচিতি নং----------

ব্যক্তিগত তথ্যাবলী ঃ

ক. অংশগ্রহণকারীর নাম ঃ

খ. বয়স ঃ

গ. ঠিকানা ঃ গ্রাম/ বাড়ি নং----------ডাকঘর----------

থানা---------- জেলা----------

ঘ. সাক্ষাৎকার গ্রহণের তারিখ ঃ

আর্থ-সামাজিক তথ্যাবলী ঃ

ক. শিক্ষাগত যোগ্যতা ঃ ☐

১= অশিক্ষিত ২= প্রাইমারি ৩= মাধ্যমিক ৪=এস.এস.সি

৫= এইচ.এস.সি ৬= স্নাতক ৭= স্নাতকোত্তর

খ. বৈবাহিক অবস্থা ঃ ☐

১= বিধবা ২= তালাকপ্রাপ্ত ৩= আলাদা থাকেন ৪=স্বামীর সাথে থাকেন

গ. পরিবারের ধরণ ঃ ☐

১= একক ২= যৌথ

ঘ. আপনার পরিবারে কতজন উপার্জনক্ষম লোক আছে? ☐

১= একজন ২= একজনের বেশি

ঙ. আপনার পরিবারের মাসিক আয় কত? ☐

১= ৩,০০০-৫,০০০ ২= ৬,০০০-১০,০০০ ৩= ১১,০০০-১৫,০০০ ৪= >১৫,০০০

চ. আপনার কয়টি বাচ্চা? ☐

১= মাত্র একটি ২= দুইটি ৩= তিনটি ৪= > তিনটি ৫= বাচ্চা নাই

ছ. আপনার বাচ্চা কিভাবে হয়েছে? ☐

১= নরমাল ২= সিজার ৩= প্রযোজ্য নয়

জ. আপনি কি গর্ভবতী ? ☐

১= হ্যাঁ ২= না

ঝ. বসবাসের এলাকা ঃ ☐

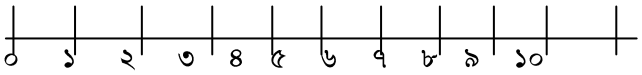
১= গ্রাম ২= শহর

অংশগ্রহণকারী সংক্রান্ত্ম তথ্যাবলী ঃ

ক. আপনার কি কোমর ব্যাথা আছে? ☐

১= হ্যাঁ ২= না

খ. এই স্কেলে আপনার ব্যাথার তীব্রতা কত? ☐



১= ০-৪ ২= ৫-৭ ৩= ৮-১০ ৪= প্রযোজ্য নয়

গ. ব্যাথা কি পায়ের দিকে যায়? ☐

১= হ্যাঁ ২= না ৩= প্রযোজ্য নয়

ঘ. আপনি কতদিন যাবৎ এই ব্যাথায় ভুগছেন? ☐

১. < ৬ মাস ২= > ৬ মাস কিন্তু < ১২মাস ৩= > ১২মাস ৪= প্রযোজ্য নয়

ঙ. আপনার ব্যাথার ধরণ কেমন? ☐

১= মাঝে মাঝে ২= সবসময় ৩= প্রযোজ্য নয়

চ. আপনি কাজ করার সময় বেশির ভাগ কি অবস্থায় থাকেন? ☐

১= বসে থাকেন ২= দাঁড়িয়ে থাকেন ৩= ঝুকে থাকতে হয়

ছ. আপনাকে কি কোন ভারি জিনিস তুলতে হয়? ☐

১ = হ্যাঁ ২ = না

জ. মিনিস্ট্রোয়াল অবস্থা ঃ ☐

১= নিয়মিত ২= অনিয়মিত ৩= মেনোপোজ

ঝ. আপনি কে কোন ধরনের তামাক গ্রহণ করেন? ☐

১= হ্যাঁ ২= না

যদি করে থাকেন তবে কতদিন যাবৎ ঃ ☐

১= নতুন শুরু করেছেন ২= মাঝে মাঝে খান

৩= নিয়মিত খান (> ১ বছর) ৪= প্রযোজ্য নয়

ঞ. আপনি কি সারাদিনে কোন অবসর সময় পান? ☐

১= হ্যাঁ ২= না

যদি পান তাহলে আপনি অবসর সময় কি করেন? ☐

১= বাগান করেন ২= সেলাই করেন ৩= টেলিভিশন দেখেন ৪= বই পড়েন

৫= ঘুমান ৬= গল্প করেন ৭=অন্য কিছু করেন ৮= প্রযোজ্য নয়

ট. আপনি কি কখনো কোমরে আঘাত পেয়েছিলেন? ☐

১= হ্যাঁ ২= না

ঠ. আপনি কি এই ব্যাথার জন্য কখনো কোন চিকিৎসা নিয়েছেন? ☐

১= হ্যাঁ ২= না ৩= প্রযোজ্য নয়

যদি নিয়ে থাকেন তবে কি ধরনের চিকিৎসা নিয়েছেন? ☐

১= ঔষধ ২= ফিজিওথেরাপী ৩= সার্জারি

৪= কবিরাজী ৫= অন্যান্য ৬= প্রযোজ্য নয়

Questionnaire

- **Personal details** ID:
  a. Name of Participant:
  b. Age: …….years
  c. Address:
     Village/House no……. Thana …….
     Post office…… District……
  d. Date of interview: DD/MM/YY……..
- **Socio-demographic information:**
  A. Educational level: ☐
     1 = Illiterate 2= Primary 3=secondary
     4=S.S.C
     5=H.S.C. 6= Graduate 7= Masters and above
  B. Marital status: ☐
     1= Widow 2= Divorce 3= Separated 4= Live with her husband
  C. Family type: ☐
     1= Nuclear family 2= Extended family
  D. How many earning member in your family? ☐
     1=Only one 2=More than one
  E. Monthly family income: ☐
     1= 3,000-5,000 2= 60000-10,000
     3= 11,000-15,000 4=>15,000
  F. Number of child: ☐
     1=Only one 2=Two 3= Three
     4=More than three 5= No child
  G. The process of child birth: ☐
     1=Normal 2=Caesarian section 3=Not applicable
  H. Are you pregnant now? ☐
     1=Yes 2=No
  I. Area of living: ☐
     1= Rural 2= Urban

- **Participant related information**

A. Do you feel LBP? ☐

1=Yes 2= No

B. How severe is your pain in VAS scale? ☐

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

C. Is the pain radiate to leg? ☐

1=Yes 2= No 3= Not applicable

D. From how many days do you suffer from this pain? ☐

1= <6 months 2= >6 month but <1 year 3=>1 year 4= Not applicable

E. What is the behavior of your pain? ☐

1= Intermittent 2= Constant 3= Not applicable

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

1= Sitting 2=Standing 3=Bending

G. Do you lift any heavy weight in you ADL? ☐

1= Yes 2= No

H. Menstrual status: ☐

1=Regular 2=Irregular 3=Menopause start

I. Have you take any tobacco? ☐

1= Yes 2=No

If yes then for how many days? ☐

1=Current user 2= Former user

3= Regular user (> 1year) 4= Not applicable

J. Do you get any leisure period? ☐

1=Yes 2=No

What are you doing in leisure period? ☐

1=Gardening 2=Sewing 3=Watching TV 4=Reading

5=Sleeping 6= Gossiping 7=Others 8= Not applicable ☐

K. Have you got any trauma on your back?

1=Yes 2= No

L. Have you ever taken any treatment for LBP? ☐

1=Yes 2= No 3= Not applicable

If yes then what kind of treatment did you receive? ☐

1=Medication 2= Physiotherapy 3= Surgery

4= Traditional 5=Others 6= Not applicable