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**PREVALENCE OF LOW BACK PAIN IN LONG TIME SITTING
POSITION AMONG THE OFFICE WORKER**

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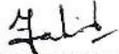
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We the undersigned certify that we have carefully read and recommended to the Faculty of Medicine, University of Dhaka, for the acceptance of this dissertation entitled

**PREVALENCE OF LOW BACK PAIN IN LONG TIME SITTING POSITION
AMONG THE OFFICE WORKER**

Submitted by **Md. Tofayel Ahamed** for the partial fulfilment of the requirements for the degree of Bachelor of Science in Physiotherapy (B.Sc. PT).



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DECLARATION

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

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Acronyms

BHPI	Bangladesh Health Professions Institute
BMI	Body mass index
CRP	Centre for the Rehabilitation of the Paralysed
LBP	Low back pain
SPSS	Statistical Package of Social Science
WHO	World Health Organization

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Abstract

Purpose: To compute the number of people having low back pain per hundred people from Office Worker.

Objectives: To find out the prevalence of low back pain in long time sitting position among the office worker; to identify vulnerable sex affected by LBP; to determine the educational level of the participant; to determine vulnerable age group of LBP; to assess the behavior of pain; to evaluate the possible cause that might responsible for developing LBP and to identify participants treatment seeking behavior.

Methodology: A quantitative cross-sectional study design was chosen to accomplish the objectives of the study. One hundred subjects were selected conveniently from Office. A structural questionnaire was developed through searching related literature. The participants were requested to answer according to the developed format of the question. The answers were entered into SPSS 20 software and analyzed as descriptive statistics.

Results: The study showed that the prevalence of low back pain in long time sitting position among the office worker. The study findings reveal the 87% have suffered from back pain and male (70.11%) are more vulnerable than female (30%). The most affected age range 31-50 years 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 1-9 years 45%, followed by 39.08% were 10-19 years, 18% were and 16.09% were ≥ 20 years.

Conclusion: The result of the study demonstrates that the prevalence of low back pain was 87%. And age, sex, prolong bending posture had a positive effect on the LBP among the people.

Key word: Low back pain, Long time sitting, Office worker.

1.1 Background

Back pain is a significant general medical issue in created and creating nations comprehensively, it is one of the main musculoskeletal issue and it is an overall incapacitating work related danger (MacDonald et al., 2009). Back pain is the third most general argument for visits to the specialist's office, behind skin issue and osteoarthritis/joint issue (Sauver et al 2013). The most pertinent side effects of LBP are pain and disability (Koes et al., 2006). Around the world, years lived with incapacity brought about by low back pain have expanded by 54% somewhere in the range of 1990 and 2015 (Hartvigsen et al., 2018).

Low back pain is a key health issue and two third of the grown-up population experience the ill effects of LBP sooner or later in their lives and nearly 12% to 44% of individuals have LBP at some random time with an expected point predominance of 33% among office Laborer (Spyropoulos et al., 2007). Back pain represents in excess of 264 million lost work days in a single year-that is two work days for each all day laborer in the nation (According to Hidden Impact Musculoskeletal Disorders on Americans, 2018).

Low back pain is a chief issue for office laborers For model, the 1-year the comprehensive ratio of LBP in Thai and Greek office laborers was 34% and 38%, separately (Janwantanakul et al., 2008). Past studies have recognized a few individual elements related with LBP including level of education (Dionne et al., 2001), smoking (Shiri et al., 2010), lack of sleep (Muto et al., 2006) With respect to work related hazard factors, collected computer use has been connected to expanded hazard of LBP (Ortiz-Hernández et al., 2003). Low back pain (LBP) are exceptionally regular musculoskeletal issue and the main causes of disability around the world (Vassilaki et al., 2014). This may be brought about by their long time sitting position and specific body postures, for example, wrong low back flexion or turn, just as other work environment natural elements (Yue et al., 2012).

Sitting for the greater part a work day in blend with ungainly postures or regularly working in a forward bent position has been found to improve the probability of having LBP (Lis et al., 2007). Poor workstation ergonomics has been appeared to essentially add to the improvement of LBP (Spyropoulos et al., 2007), Different psychological problems, such as high stress (Yip et al., 2001), low job satisfaction, low social support (Clays et al., 2007) and effort-reward imbalance have also associated to enhanced LBP.

Omokhodion et al. researched in Nigeria's rural health clinics had low back pain in about 69 percent of nurses, 55 percent of office employees, 47 percent of housekeeping suppliers, 47 percent of heavy duty employees, 20 percent of unfit employees had, 20 percent of long term and standing employees (Omokhodion et al., 2000).

An audit of the writing uncovered that the yearly pervasiveness of chronic LBP in public demography extend from 15% to 45%, with a point predominance of 30% (Manchikanti et al., 2009). In 2007, twentyfive percent of laborers from the 27 European Union part states concerning about LBP (European Agency for safety and Health at Work., 2008).

Researches on LBP were engaged with different work related people gatherings, for example, office staffs, medical attendants, specialists, fighters, ranger service laborers, development laborers, and others, of whom the predominance ratio of LBP were from 15% to 84% (Forde et al.,2005; Gallis et al.,2006; Janwantanakul et al., 2008; Mitchell et al., 2008). Increasing proof think that musculoskeletal side effects are normal among office laborers (Juul-Kristensen et al., 2005). Current review of self-revealed musculoskeletal side effects in all body locales in an overall public of office laborers indicated a high extent of them complained musculoskeletal side effects in the spine during the past one year with a commonness of 42% in the head/neck, 28% in the upper back and 34% in the low back (Janwantanakul et al., 2008). Yu and Wong detailed that 31% of bank workers complain about back pain every year (Yu et al., 1996). Past research has shown that supported sitting posture during PC use in associate with poor workstation ergonomics was altogether owing to the improvement of musculoskeletal indications (Marcus et al., 2002).

Sitting for periods surpassing half the work day in blend with ungainly postures or as often as possible working in a forward bending position builds the probability of LBP (Van Oostrom

et al., 2012). In Europe, the amplitude of LBP in occupations that require the laborer to sit the majority of the work day is altogether higher than that in the normal demography (Spyropoulos et al., 2007). Every year among 2% and 4% of the total work strength of the United States accept medical remunerations related to LBP. An investigation in Malaysia found that 42.4% of office laborers in public academy experienced back pain (Mahmud et. al., 2011).

Specialists catalogue that up to 80% of the populace will understanding back pain sooner or later in their lives. Back pain can influence people of all ages from young people to the old (Rubin D1 et al., 2007). At work sitting long time cause LBP because of limited postural variety (Toomingas, Forsman, Mathiassen, Heiden & Nilsson., 2012). This may, speculatively, decline adaptability and muscle quality in the lower back (Beach, Parkinson, Stothart, & Callaghan., 2005), which may thusly prompt disc degeneration, rupture, or herniation (Claus, Hides, Moseley & Hodges., 2008).

Low-back pain prices Americans a minimum of \$50 billion in health care costs every year⁸—add in lost wages and cutproductivity which figure simply rises to over \$100 billion (Katz et al., 2006). In 2013, forty seventh of staff in Denmark nation reportable pain or discomfort within the back during the preceding fourteen days. Danish study from 2014 showed that four-hundredth of all staffs in Denmark were sitting >75% of their operating hours (The National Health Profile 2014). In theory, prolonged sitting at work may cause LBP because of restricted posture variation (Mathiassen et al., 2006; Toomingas et al., 2012).

This may, hypothetically, decrease flexibility and muscle strength within the lower back (Beach et al., 2005), which can successively lead to disc degeneration, rupture, or herniation (Claus A et al., 2008; Makhsous et al., 2009). A second Hong Kong study claimed 46%of 1853 adults rumored pain at the time of interview whereas 40.1% rumored persistent pain lasting over three months. The best prevalence (60%) was seen within the forty five to sixty four year age community (Chung et al., 2007).

1.2 Rationale

The aim of the study is to find out the prevalence of LBP in long time sitting position among the office worker. Day by day the recurrence of low back pain is increasing in our country. Common predisposing factors for low back pain are poor physical fitness, lack of regular exercise, maintain poor posture and lead sedentary life style, what is more most of the patients taking only medication rather than physiotherapy. Physiotherapy is the evidence based treatment protocol for reducing the incidence of LBP and preventing complications associated with LBP.

In our country in most of the the corporate office they have lack of knowledge about ergonomics and the work load they did without any significant ergonomics changes makes them prone to develop different types of musculo skeletal problem such as LBP. LBP is the most common musculo skeletal problem occurs due in long time bending, sitting, as well as prolong squatting. Besides these regular heavy weight lifting and heavy physical work to moderate physical activity is seems to be associated with LBP. But most of this LBP can be prevent able or even curable only by following some ergonomical advice during their ADLs.

Low back pain is a painful condition of lower back, which creates disturbance in functional activities. Literature suggests that pain and dysfunction is very common in low back pain which can interfere with the person's ability to function at work & recreation and imposes a financial cost on the community. So it is very important to manage the cases with low back pain.

The study helps to identify the risk factors of offices which are harmful for the office 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 in long time sitting position among the office worker?

1.4 Objective

1.4.1 General objective

To identify the prevalence of low back pain in long time sitting position among the office worker

1.4.2 Specific objectives

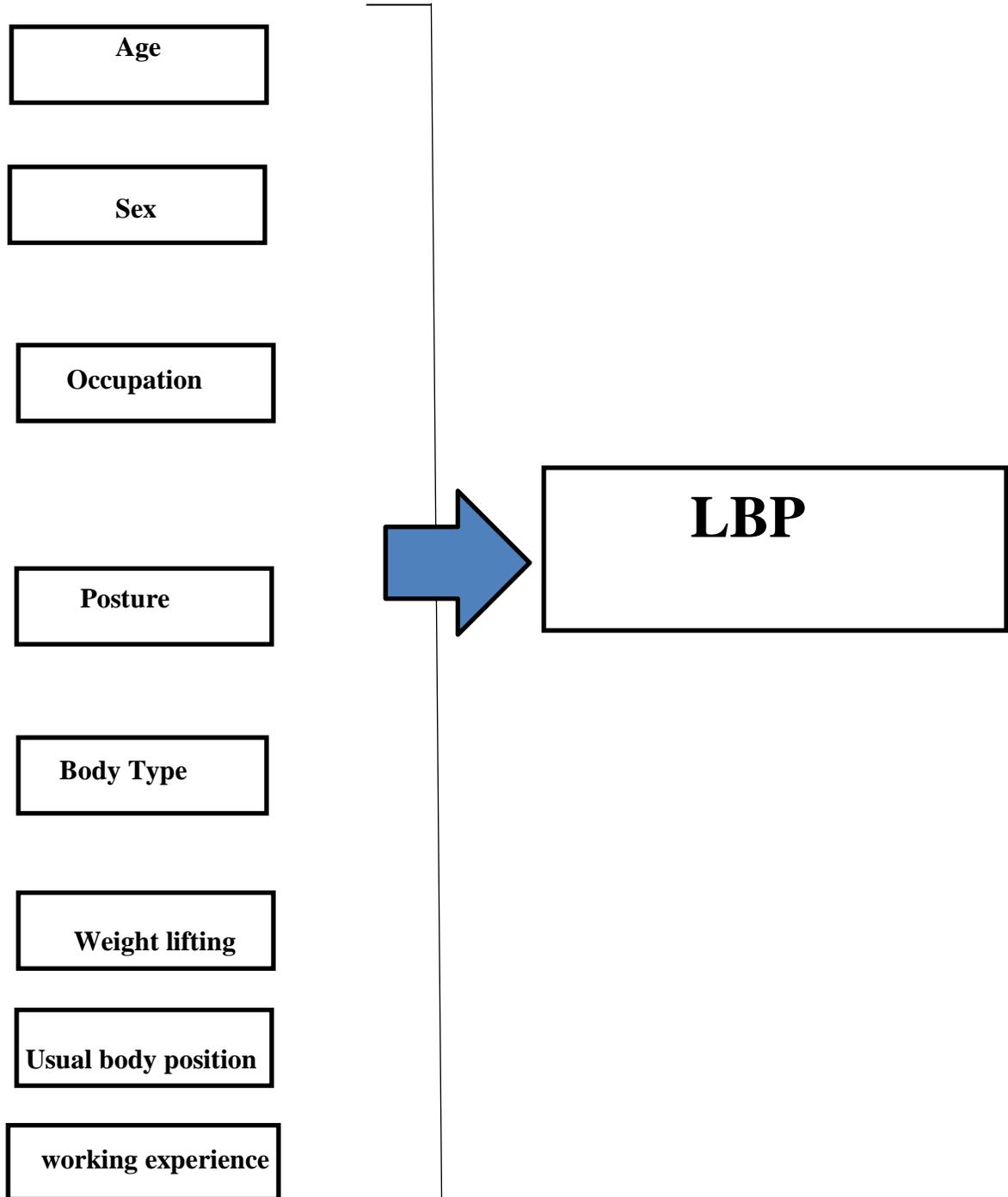
1. To find out the number of housewives affected by LBP per hundred housewives.
2. To measure the severity of pain by using Pain Numeric scale.
3. To explore the socio-demography (age, economical status, marital status, educational background, living area) of the affected group
4. To determine the most common factors that are responsible for developing LBP among the office workers.
5. To explore the job experience of the participants who suffered low back pain
6. To clarify the working postures which were responsible for low back pain among office worker.

1.5 List of variables

Conceptual framework

Independent variables

Dependent variable



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 office workers is determined by number of office workers affected by LBP per hundred office workers in the study.

Low back pain

Low back pain refers to pain felt in lower back. It may also have back stiffness, decreased movement of the lower back, and difficulty standing straight.

Back pain (also referred to as “dorsopathy”) is pain felt within the back that will come back from the muscles, nerves, bones, joints or different structures within the spine. The pain could constant or intermittent, keep in one place or refer or radiate to different areas. It might be a dull ache or a pointy or burning sensation. Pain usually mentioned the hip, cheek or one leg. The cause is also muscle strain or trigger purpose instability thanks to weak bodily property muscles hypomobile spinal aspect joints or degeneration or rupture of spinal disks. LBP may be additional exactly referred to as lumbar pain or lumbosacral pain happens below the 12th rib and higher than the striated muscle folds (Sikiru & Hanifa, 2010).

The 5 commonest pain manufacturing structures of LBP are posterior longitudinal ligament interspinous ligament, nervus roots, side joints deep muscles. The structures don't absolutely account for the pain intimate with by several chronic low back pain sufferers (Suhaimi & Zahra, 2009).

Low back pain is also postural dysfunctional or derangement syndrome. Medical terms wont to describe low back pain are PLID (prolapsed or disc), disc lesion, spondylolisthesis, spondylolysis and degenerative disc diseases. In keeping with the European pointers for management of acute nonspecific back pain in primary care, LBP (also referred to as lumbosacral pain) is outlined as “pain and discomfort, localized below the costal margin and higher than the inferior gluteal folds, with or while not leg pain” (Kuritzky & Samraj, 2012).

Emotional stress, bed posture, being obese or sitting in the same position for long durations of time it can also because of low back pain (Back Pain Health Center, 2011). The lumbar area with respect to the remainder of the spine. The lumbar area (or lower back district) is comprised of five vertebrae (L1-L5). In the middle these vertebrae lie fibro-ligament plates (intervertebral circles), which go about as pads, keeping the vertebrae from scouring together while simultaneously securing the spinal cord. Nerves originate from the spinal string through foramina inside the vertebrae, giving muscles sensations and motor related

messages. Solidness of the spine is given through tendons and muscles of the back, lower back and stomach area. Little joints which avoid, just as immediate, movement of the spine are called facet joints (Chen et al., 2009). Back pain is any kind of pain or uneasiness all through the back or back part of the trunk, from the pelvis up through the neck (Better Medicine, 2010). Low back pain can influence the back any place beneath the ribs or more the legs (WebMD, 2011). It is additionally characterized as pain between the costal edges and inferior gluteal folds (Taucer et al., 2009).

Lumber Spinal pain has been characterized as seen as emerging from anatomical borders of the place limited horizontally by the lateral area of the erector spine, superiorly by an fabulous transverse line through the T12 spinous process and inferiorly by a line through the S1 spinous process. Sacral spinal pain is outlined as pain felt among a area overlying the sacrum, delimited laterally by imaginary vertical lines through the posterior superior and posterior inferior iliac spines, superiorly by a transverse line through the S1 spinous process and inferiorly by a transverse line through the posterior sacrococcygial joints (Kilpikoski et al., 2010).

Inactive or office laborers in schools, clinics and the military have been seen to have a high frequency and predominance of NP and LBP (Chiu et al., 2007). This may be brought about by their drawn out sitting time and explicit body stances, for example, improper neck or low back flexion or pivot, just as other work environment natural factors (Yue et al., 2012). However, the present writing on modifiable determinants of NP/LBP among office laborers in current work environment situations, where concentrated PC use is normal, is insufficient (McLean et al., 2010).

Thus, the present examination planned to investigate the relationship of word related hazard factors with NP and LBP in PC utilizing office laborers. Proof recommends that activity treatment can counteract low back pain (LBP) (Henchoz et al., 2008). In any case, various occupations are presented to various working conditions and that the idea of the work impacts the strength of laborers The burden and determinants of back pain in workers: results of the Bone and Joint Decade (Guzman et al., 2009). Low back pain (LBP) is one of the most widely recognized word related medical issues in industrialized nations and is related with significant nonattendance from work and misfortune in efficiency, bringing about monetary

weights to managers, representatives and human services frameworks (Punnett et al., 2005). Low-back pain (LBP) is a significant wellbeing challenge in the general Danish populace. In 2013, 47% of laborers in Denmark announced pain or distress in the back during the first 14 days (The National Health Profile.,2014). A Danish report from 2014 (da, Costa BR, & Vieira, ER., 2010) demonstrated that 40% of all workers in Denmark were sitting >75% of their working hours. Indeed, even in hands on occupations, laborers presently give off an impression of being presented to significant sitting during the working day (Hallman Mathiassen, Gupta, Korshøj & Holtermann., 2015). This recommends impacts of sitting may likewise be pertinent to address in industrial occupations.

Executing a similar exercise system for every one of those utilized in varying occupations to impede musculoskeletal issue would be silly. Office work is typically requires drawn out sitting stance. Absence of movement during sitting may incite the shortening of soft tissues, which thusly confines the accessible joint range of movement (Tobiasson et al., 2012). Restricted joint movement may mutilate the ordinary body biomechanics and adds to musculoskeletal issue (Oatis et al., 2009). There are a few hazard factors related with LBP. Developing proof shows that low back pain begins from the early in life between 8-10 years (Sommerich, 1993). Low back pain influences men and womens in their best profitable years, with the peak recurrence of side effects happening in the age scope of 35-55. In his investigation sured that LBP commonness is critical as right on time as age 12-14 in both genders. 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- 12 34 years old group for women (Ghaffari et al, 2006).

One past investigation demonstrated that female young people with LBP had lower lumbar mobility every which way than ordinary subjects. Back extensor and psoas muscle cross-sectional area, prior physical training, and trunk muscle strength--a longitudinal study in adolescent girls (Peltonen et al., 1998).

Extending activity can build the scope of joint movement and support flow and oxygenation in joints, muscles, and muscle ligament units. Long time sitting requires the static compression of postural muscles, which has been recently distinguished as a hazard factor for musculoskeletal issue (da Costa BR et al., 2008). Nonstop low-force muscle constriction

results in Ca^{2+} gathering and homeostatic aggravations in the dynamic muscles because of poor blood course and a hindered metabolic waste eradication mechanism (Goodpaster et al., 2006). These neurotic changes lead to microlesions, abuse damage, and pain because of inadequate recuperation time (Wilson et al., 2002).

Past examinations exhibited that low back muscle endurance was an autonomous indicator of LBP in a working populace and muscle intense exercise was viable for treating patients with subacute LBP. The target of this investigation was to assess the impact of an activity program concentrating on muscle extending and aerobic exercise on the year frequency of LBP among office laborers (Hamberg & Reenen 2006). Office laborers show a few standards of conduct that incline them to musculoskeletal issue, for example, LBP (Macedo et al., 2011). These incorporate extended times of sitting and stability, restricted utilization of body musculature aside from specific muscles of the arms, wrists, and hands, and the upkeep of poor posture. The point commonness of LBP among office laborers has been assessed to be 33% (Spyropoulos et al., 2007). In 2016, 31% of all instances of disorder nonattendance in Norway had a musculoskeletal determination, with side effects from the low back pain is the most predominant (Norwegian Labour and Welfare Administration 2007-2016). During long time sitting prolonged flexion has been proposed to redistribute the nucleus inside the annulus (McKenzie et al., 1979) or increment lumbar spine stiffness (Beach, TA, Parkinson, RJ, Stothart, JP, & Callaghan, JP., 2005).

Today, inactive way of life has turned out to be ubiquitous, as an expanding number of people burn through broadened periods in a seated position at work just as during relaxation time (BMC Public Health, 2015). At the same time, the predominance of low back pain (LBP) has expanded among office laborers in common (Collins et al., 2015).

In particular, call-focus representatives have as of late turned into the focal point of consideration in this field as they spend up to 95% of their all out work time in a situated position (Toomingas et al., 2012), however their occupations are additionally perceived for conceivably elevated amounts of pressure, particularly when managing troublesome or forceful clients (Oh et al., 2017). Since high work related pressure is also thought to be identified with musculoskeletal issue of the lower back (Sprigg et al., 2007), It is along these

lines obvious that a higher extent of call-focus laborers report musculoskeletal manifestations than other expert office clients (Norman et al., 2004).

Studies have demonstrated that somewhere in the range of 34 and 51 % of office laborers have encountered low back pain(LBP) in the previous a year (Ayanniyi et al., 2010) and 20 to 23 % of office laborers report another beginning of LBP during a 1-year follow-up (Sihawong et al., 2014). A past report likewise uncovered that almost 33% of LBP patients had not totally recouped a year after the beginning of LBP while in the Netherlands the absolute expense of LBP in 2007 was evaluated at 3.5 billion euros (Lambeek et al., 2011). A previous Japanese examination detailed a lifetime LBP pervasiveness of over 80%. The Ministry of Health, Labor and Welfare of Japan (MHLW) revealed that LBP is the first and second most basic wellbeing protest in 2013 among Japanese people, respectively Since LBP is normal in the Japanese populace, the monetary misfortune caused at the work environment and in the social insurance framework is probably as huge as in Western nations (The Japan Health and Welfare Organization, 2014). Low back pain (LBP) is one of the most critical work related musculoskeletal disorders (WMSDs) in light of the fact that it involves a huge level of these scatters (Tamrin, Yokoyama, Aziz, and Maeda, 2014), regular among laborers with a high monetary weight (Ekpenyong and Inyang, 2014; Roffey, Wai, Bishop, Kwon, and Dagenais, 2010; Trask et al., 2010). Low back pain is the most pervasive damage and wellbeing complaint among workers (Burgel, Nelson, and White, 2015),

Cassidy et al. announced that among grown-up Canadians, predominance of LBP was 28.4% and 84.1% of Saskatchewan grown-ups had encountered LBP sooner or later during their lifetime (Alkherayf et al., 2010). Another investigation of a Belgian overview found that a practically indistinguishable lifetime predominance of 59%. Reports distributed that industrialized nations have demonstrated pervasiveness rates among the all inclusive community running from 21% in Hong Kong and 39% in Bradford, UK to 69% in Denmark andless industrialized nations are not many however it is by and large accepted that the pervasiveness is a lot of lower than the industrialized nations (Omokhodion, 2000).

LBP number is more than 20%in Bangladeshand it has an incredible destructive impact on employment and daily activity of living (Rashid et al., 2012).

Office work is a stationary work and may require sitting for extended periods of time at a PC, working in incompatible positions or performing tedious manual works (Paksaichol et al., 2012). LBP cause individual affliction, incapacity and hindered nature of work and life in general, (Global Burden of Disease Study, 2010) putting an incredible financial weight on patients and society (van den Heuvel et al., 2007).

In office laborers, a few individual hazard factors, including more elderly age, female sex, increase body mass index, absence of physical exercise, smoking, alcohol consumption and past indications, are related with back pain (Cagnie et al., 2007).

In acute case the principle of treatment of LBP are to relieve pain, in chronic cases restore normal movement and frequency is to be prevented (Ebnezar, 2003). One of the best treatments for LBP is physiotherapy. Physical Therapist assess an individual's physical ability to do a specific functional activity and aims in improving a safe return to work program or reduce symptoms. All exercises ought to be performed slowly and well to avoid injury. Once performing strengthening and stretching exercises, bear in mind to breathe naturally and don't hold your breath; exhale throughout exertion and inhale throughout relaxation. A program of strengthening, stretching, and aerobic exercises can improve fitness level. Analysis has shown people who are physically fit are a lot of proof against back injuries and pain and recover faster after they do have injuries than those that are less physically work (Healthy Back Exercises: Strengthen and Stretch, 2011). For acute cases that don't seem to be weakening, low back pain is also best treated with conservative self-care (Chou et al, 2007) including: application of heat or cold and continued activity among the boundaries of the pain, Firm mattresses have incontestable less effectiveness than medium-firm mattresses. Thrust and non-thrust mobilization/manipulation may be a common intervention utilised for acute, sub acute, and chronic low back pain. Despite its quality, recent systematic reviews have incontestable marginal treatment result across the heterogeneous cluster of patients with low back pain (Assendelft WJ et al., 2004).

3.1 Study design

The aim of the study was to find out the prevalence of LBP in long time sitting position among the office workers. For this reason the researcher choose a cross-sectional study design 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 office workers, so the study was conducted in some selected governmental and non- governmental office. This study was conducted in musculoskeletal area.

3.3 Sample size

Sampling procedure for cross sectional study done by following equation-

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

Here,

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

$$P= 0.76$$

$$q= 1-p$$

$$d= 0.05$$

According to this formula of sample size calculation, the actual sample size of the study is 280. But due to the limitations only 100 samples took conveniently from the population for this study

3.4 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 office workers 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 100 office workers as sample who were selected conveniently from selected area of governmental and non- governmental offices 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

3.5 Inclusion criteria

1. Both male and female were selected who are involved in office work
2. Subjects were selected from private and government office
3. All age group of people was selected.

3.6 Exclusion criteria

1. History of acute trauma to back, which can produce acute inflammatory reaction.
2. Any history of known active infection e.g. TB spine
3. Who are not willing to participate in the study

3.7 Data collection tools

A standard questionnaire was used for data collection. In that time some other necessary materials were used like weight machine, height tap, scale, calculator, pen etc. Here took permission from each participant by using a written consent form in Bangla and English.

3.8 Procedure of data collection

At very beginning of data collection clarified that the participant had the right to refuse to answer of any question during completing questionnaire. They could withdraw from the study at any time. Here also clarify to all participants about the aim of the study. Participants were ensured that any personal information were not be published anywhere. At first took permission from each participant by using a written consent form. After getting consent from the participants, a questionnaire was used to identify the prevalence of low back pain among the office workers. Height was measured in standing position, with shoes removed, using a wall-mounted height tap. Weight was measured with the subject in light indoor clothes, with shoes removed and emptied pockets. BMI (body mass index) was calculated as weight in kilograms divided by height in meters squared, and subjects were stratified into obese (BMI ≥ 30 kg/m²), overweight (BMI 25- 29.9 kg/m²), medium (BMI 18-24.9 kg/m²), thin (<18) Face to face interview is the most effective way to get full cooperation of the participant in the survey. According to the understanding level of the participant, sometimes the questions were described in the native language, so that the participants can understand the questions perfectly and answer accurately.

3.9 Data analysis

Data was analyzed with the software named Statistical Package for Social Sciences (SPSS) Version 20.0. Data will be numerically coded and captured in Microsoft Excel, using an SPSS 20.0 version software program. Descriptive statistic was used for data analysis which focused through table, pie chart and bar chart.

3.10 Informed consent

In this study interested subjects were given consent forms and the purpose of the research and consent forms were explained to the subject verbally. They were told that participation is fully voluntary and they have the right to withdraw at any time. They were also told that confidentiality was maintained. Information might be published in any presentations or writing but they not 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.

3.11 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.

3.12 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:

- 1.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.
- 2.Sample size was too small, so the result of the study could not be generalized to the whole population of office workers in Bangladesh. This study has provided for the first time data on the prevalence of LBP
- 3.Among the office workers 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.

4. The research project was done by an undergraduate student and it was his first research project. So the researcher had limited experience with techniques and strategies in terms of the practical aspects of research. As it was his first survey, there might have been some mistakes that were overlooked by the supervisor and the honorable teacher.

The aim of the research is to explore the prevalence of low back pain among the office Worker. Data were numerically coded and captured in Microsoft Excel to show the result, using an SPSS 20.0 version software program for analyze the data as descriptive statistics. The 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 office workers.

Prevalence of LBP

The result shows that among 100 participants 87 participants (87%) participants suffered from low Back pain and 13 participants (13%) had no LBP

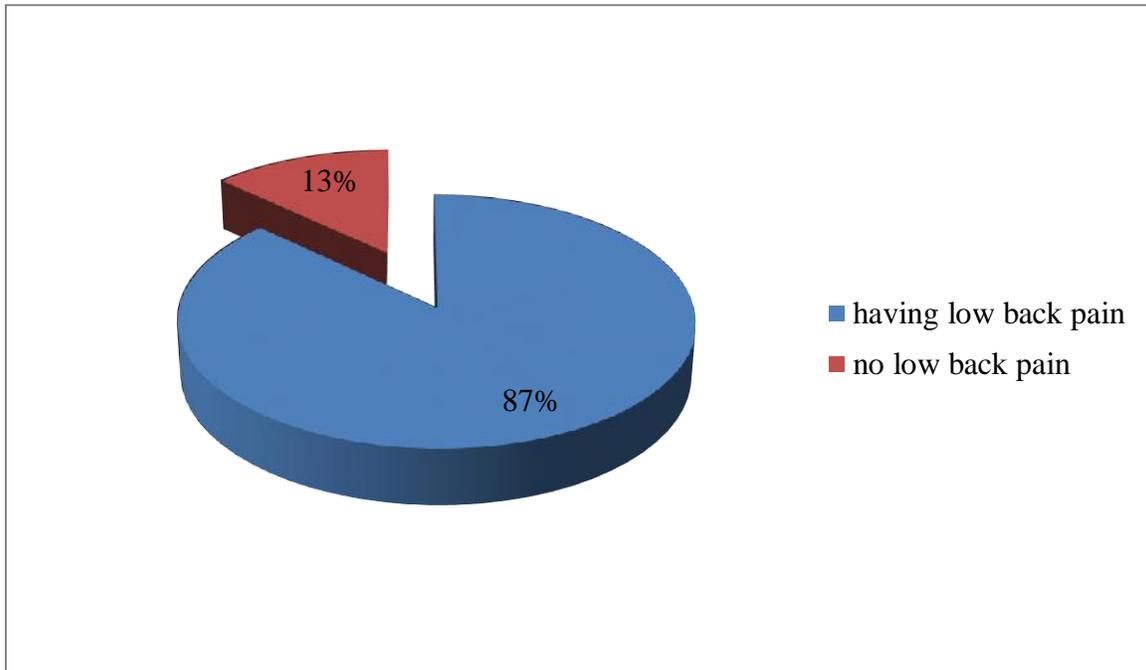


Fig-1: Prevalence of LBP

See that from above chart among 100 participants 87 participants (87%) participants suffered from low Back pain and 13 participants (13%) had no LBP.

Sex

The result shows that among 100 participants 71 were male and 29 were female and among the 87 participants who were suffered from low back pain 61(70.11%) were male and 26 (29.9%) were female.

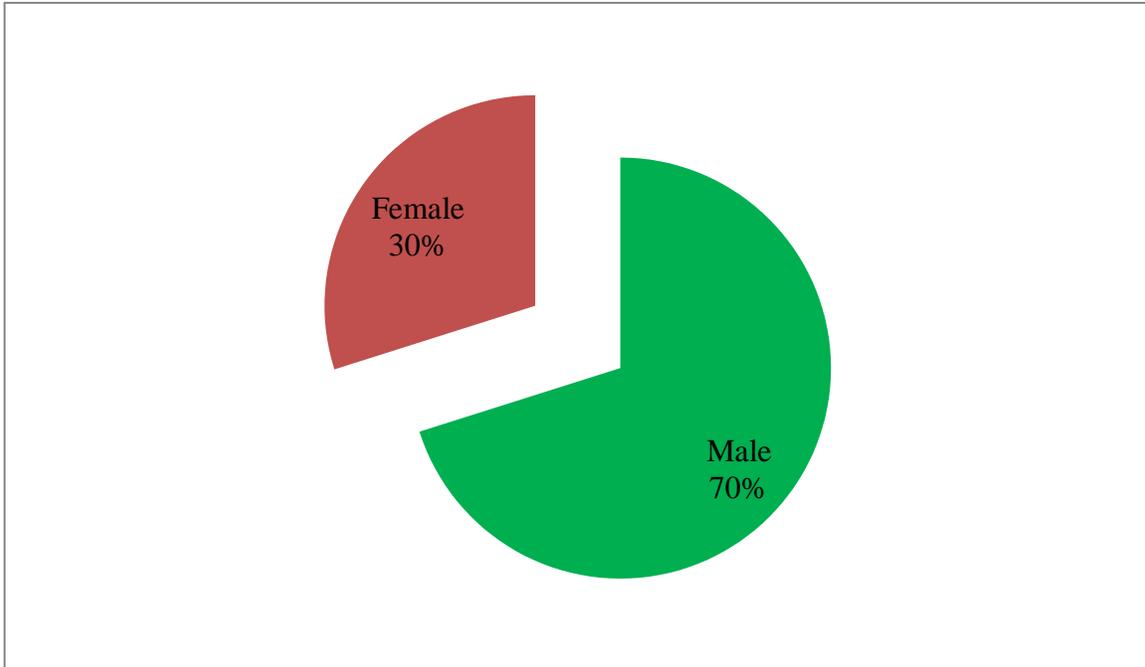


Figure-2: Sex of the participant

Educational level

Among the 87 participants having LBP, 1 participants completed primary education, 2 participants completed JSC, 6 participants completed SSC, 29 participants completed HSC, 26 participants completed undergraduate, 17 participants had graduate completed, 6 participants completed Masters and above. Among unaffected 2 participants completed SSC, 5 participants completed HSC, 4 participants completed undergraduate, 2 participants completed graduate.

Educational level	participants without LBP(n=13)		participants with LBP (n=87)	
	Number	Percentage	Number	Percentage
Primary education	0	0%	1	1.14%
JSC	0	0%	2	2.30
SSC	2	15.39%	6	6.89%
HSC	5	38.47%	29	33.33%
Undergraduate	4	30.77%	26	29.89%
Graduate	2	15.39%	17	19.54
Masters and above	0	0%	6	6.89%
Total	13	100%	87	100%

Table-1: Educational level

Body type (BMI)

Among the 87 participants having LBP there body type were thin 0% (n=0), medium 71.26% (n=62), overweight 19.54% (n=17), obese 9.19% (n=8). In case of 13 unaffected participants, there body type were thin 0% (n=0), medium 76.92% (n=10), overweight 35.0% (n=0), obese 23.07% (n=3).

Body type (BMI)	Unaffected participants (n=13)		Affected participants (n=87)	
	Number	Percentage	Number	Percentage
Thin(<18kg/m ²)	0	0%	0	0%
Medium (18- 24.9 kg/m ²)	10	76.92%	62	71.26%
Overweight(25- 29.9 kg/m ²)	0	0%	17	19.54%
Obese(≥30 kg/m ²)	3	23.07%	8	9.19%
Total	13	100%	87	100%

Table-2: Body type of the participant

Marital status

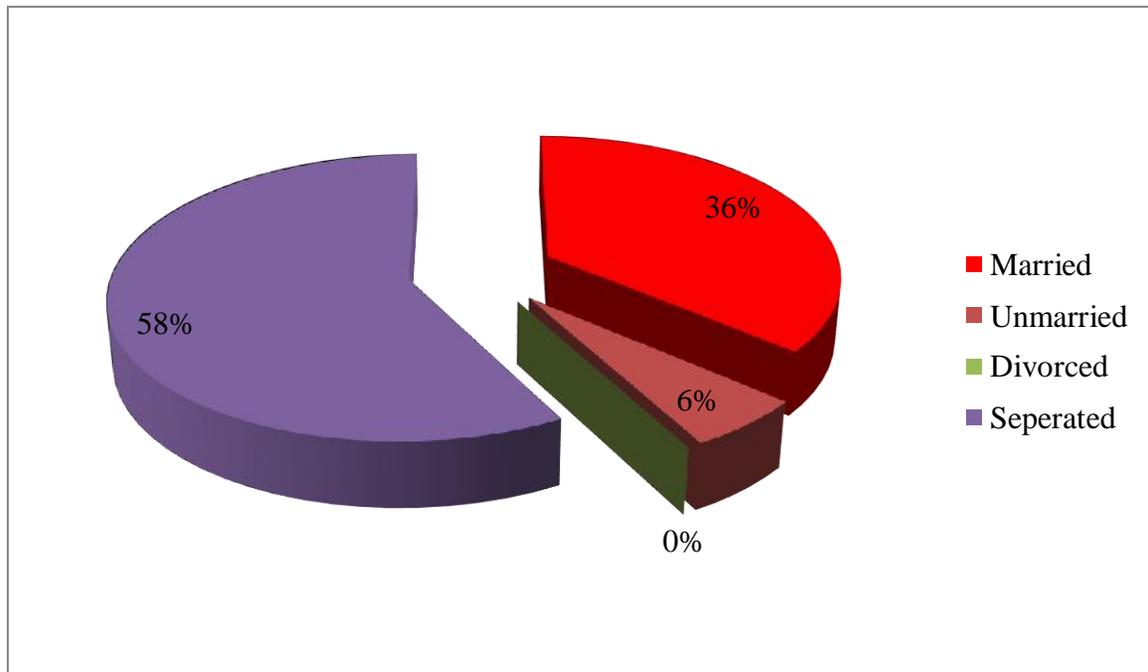


Figure- 3: The marital status of the affected group

The result showed that among the 100 participants 87 were married and 13 were unmarried and no divorced and separated person. Among the affected 87 participants who were suffering from LBP, 86.20% (n=75) were married; 13.8% (n=12) were unmarried; 0% (n=0) were divorced; 0% (n=0) were separated.

Occupation of the participants

Result showed that among 87 participant who had low back pain 9.19% (n=8) were computer operator, 6.89% (n=6) were desk job, 5.74% (n=5) were bank job, 8.04% (n=7) were finance officer, 8.04% (n=7) were audit officer, 27.2% (n=8) were administrator officer, 4.9% (n=10) were cashier and 7.4% (n=3) were head clerk, 13.8% (n=12) were manager, 2.29% (n=2) were data entry operator, 6.9% (n=6) were office assistance, 10.34% (n=9) were MLSS,

4.59% (n=4) were others. among the 13 participants 15.39% (n=2) were computer operator, 7.69% (n=1) were desk job, 7.69% (n=1) were bank job, 0% (n=0) were finance officer, 0% (n=0) were audit officer, 0% (n=0) were administrator officer, 0% (n=0) were cashier and 0% (n=0) were head clerk, 38.47% (n=5) were manager, 0% (n=0) were data entry operator, 7.69% (n=1) were office assistance, 7.69% (n=1) were MLSS, 15.39% (n=2) were others.

Occupation	Unaffected participants (n=13)		Affected participants (n=87)	
	Number	percentage	Number	percentage
Computer operator	2	15.39%	8	9.19%
Desk job	1	7.69%	6	6.89%
Bank job	1	7.69%	5	5.74%
Finance officer	0	0%	7	8.04%
Audit officer	0	0%	7	8.04%
Administrator officer	0	0%	8	27.2%
Cashier	0	0%	10	4.9%
Head clerk	0	0%	3	7.4%
Manager	5	38.47%	12	13.8%
Data entry operator	0	0%	2	2.29%
Office assistance	1	7.69%	6	6.9%
MLSS	1	7.69%	9	10.34%
Others	2	15.39%	4	4.59%
Total	13	100%	87	100%

Age and back pain relationship

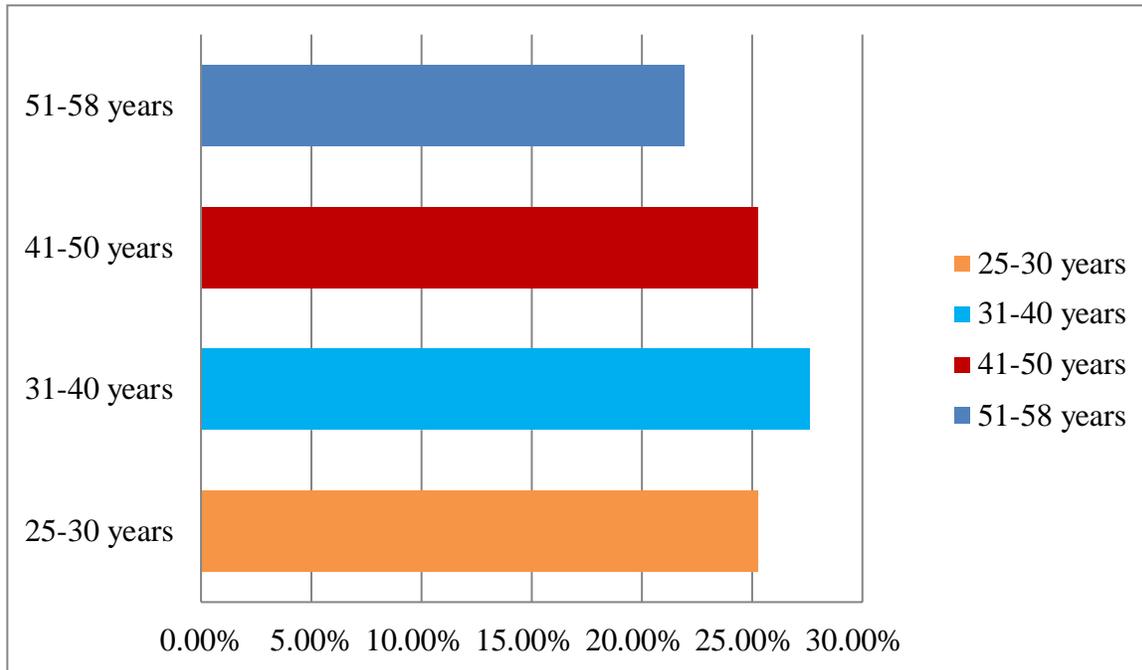


Figure-4: Age and back pain relationship

After analysis researcher found that among the 87 participants who have suffered from low back pain lowest age were 25 and highest age was 58 years and frequency were 22 (25.28%) participants in between 25-30 years, 24 (27.58%) participants in between 31-40 years, 22 (25.28%) participants in between 41-50 years, 19 (21.9%) participants in between 51-58

Job experience and back pain relationship

After analysis the result it reveals that among the 87 participants out of 100 participants 39(44.9%) participants job experience were 1-9 years, 34 (39.08%) participants were 10-19 years, and 14 (16.09%) were ≥ 20 years.

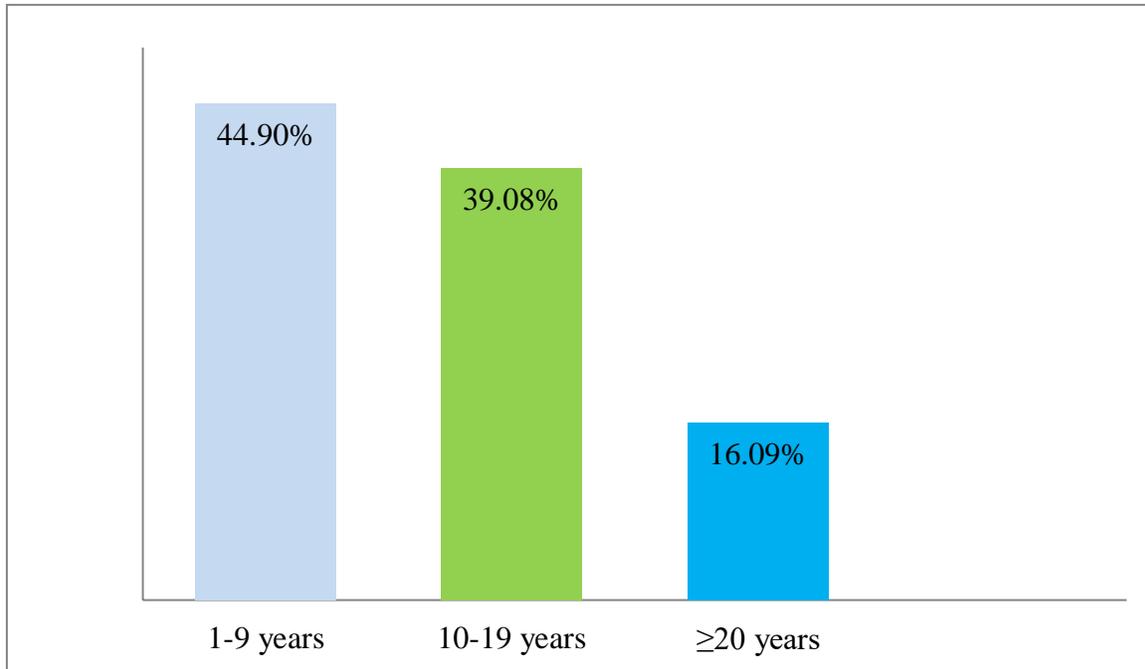


Figure-5: Job experience and back pain relationship

Duration of working hour and back pain relationship

Among the 100 participants 56 participants have done 6-9 hours of work per day which 50 (57.47%) participants have experienced back pain and 44 participants have done 10-13 hours of work per day which 37 (42.52%) participants have experienced back pain.

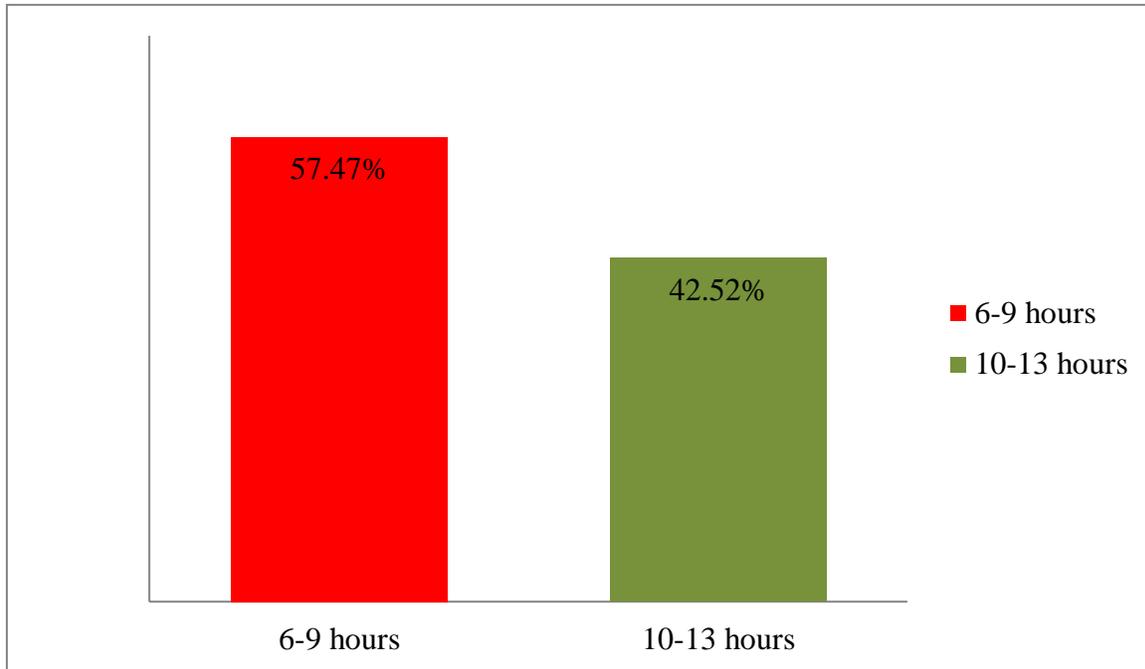


Figure-6: Duration of working hour and back pain relationship

Usual body position and back pain relationship

After analysis researcher found that among the 87 participants out of 100 participants 56(64.37%) participants were no forward bending, 31(35.7%) participants were forward bending >2h

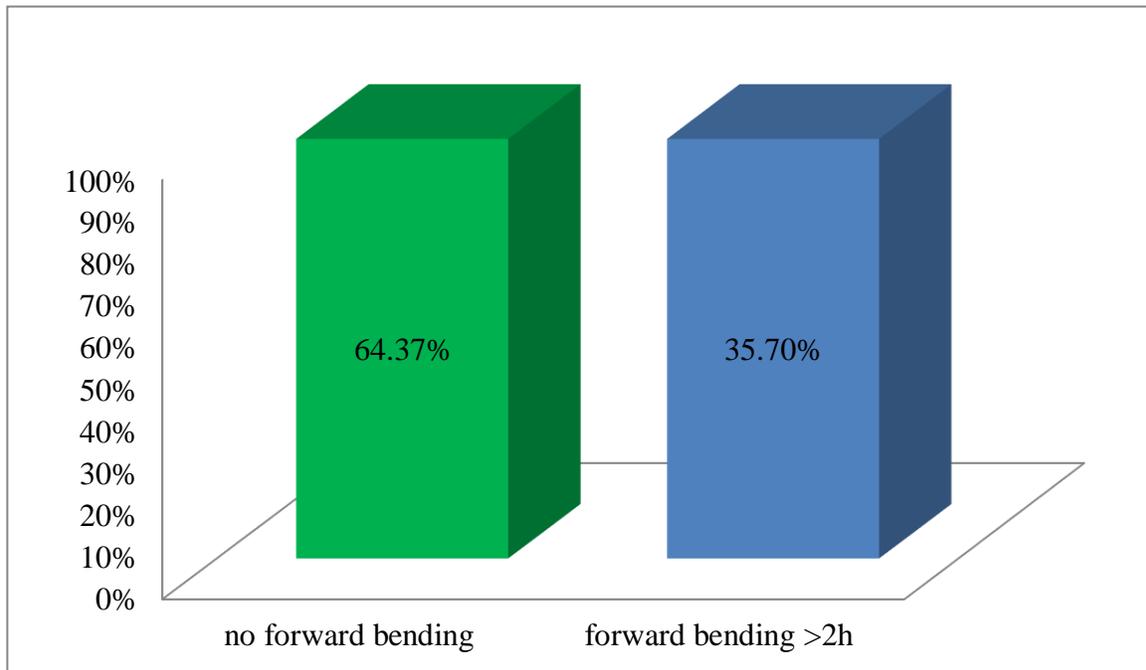


Figure-7: Usual body position and back pain relationship

Duration of using computer and back pain relationship

Among the 100 participants 2 participants have 0 hours computer use during work per day which 5 (5.8%) participants have experienced back pain, 7 participants have 4-6 hours computer use during work per day which 56 (64.37%) participants have experienced back pain 4 participants have 7-9 hours computer use during work per day which 24 (27.59%) participants have experienced back pain and 0 participants have 10-12 hours computer use during work per day which 2 (2.29%) participants have experienced back pain

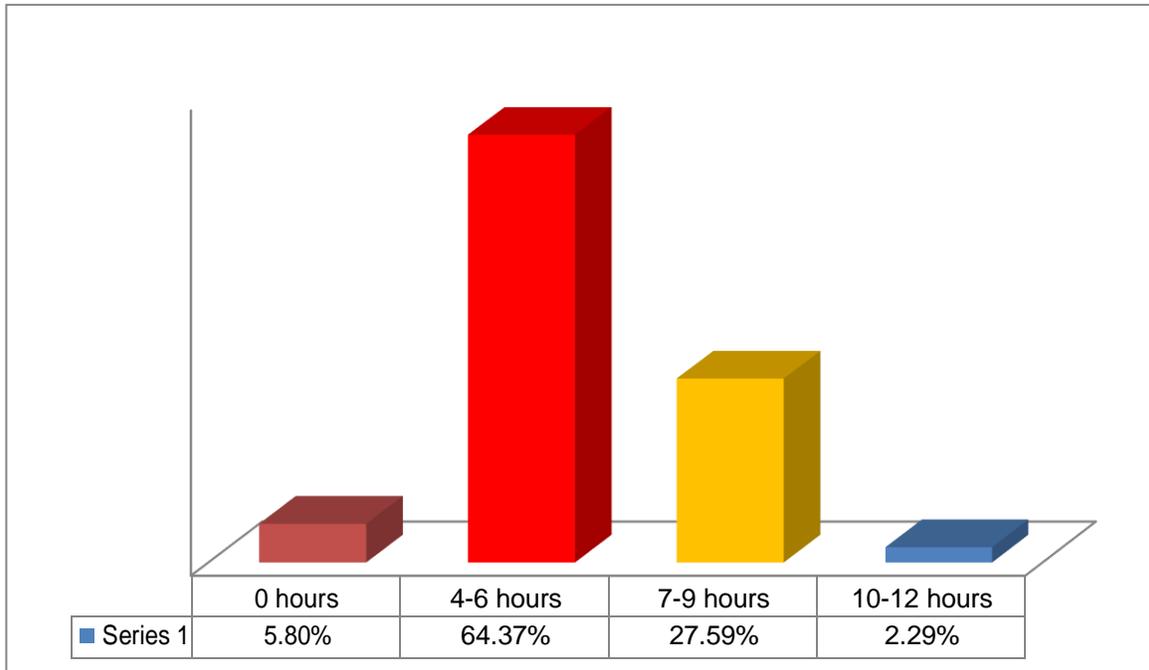


Figure-8: Duration of using computer and back pain relationship

Severity of pain

Analysis showed that among the 87 participants 28 (32.19%) participants have mild symptoms and 56 (64.37%) participants' have moderate symptoms and 3 (3.44%) have severe symptoms of pain

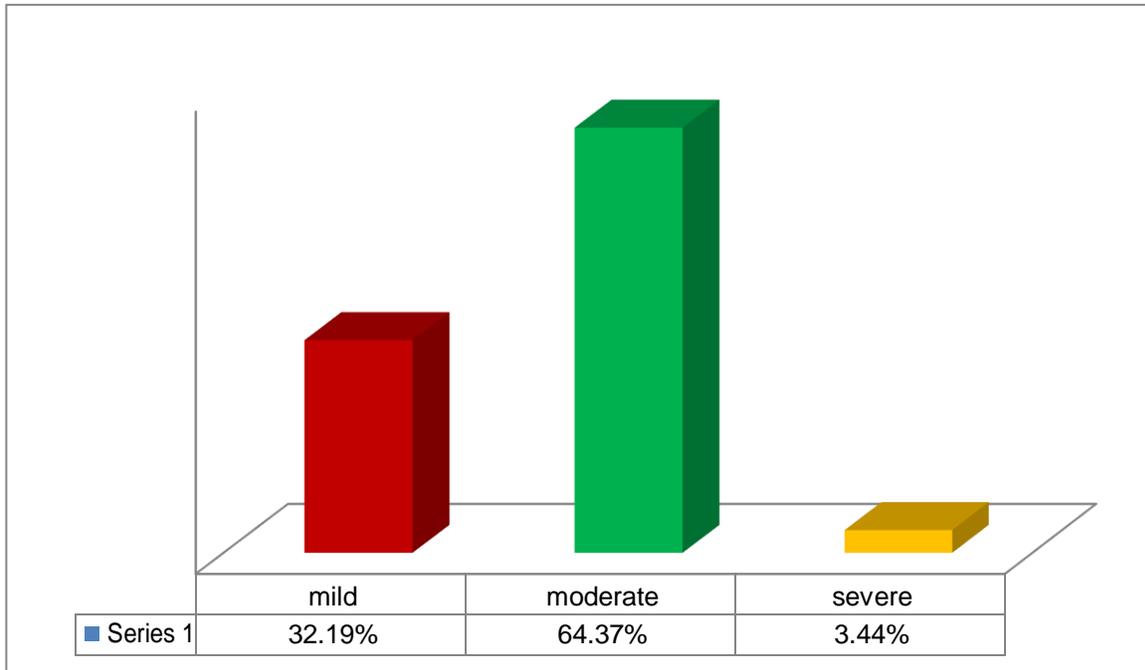


Figure-9: Severity of pain among the participants.

Lifting heavy object during work time and back pain relationship

Analysis showed that among the 87 participants who have experienced LBP among them 10 (12)% participants lifting heavy object during working time while 77(88.50%) participants were not lifting heavy object during working time.

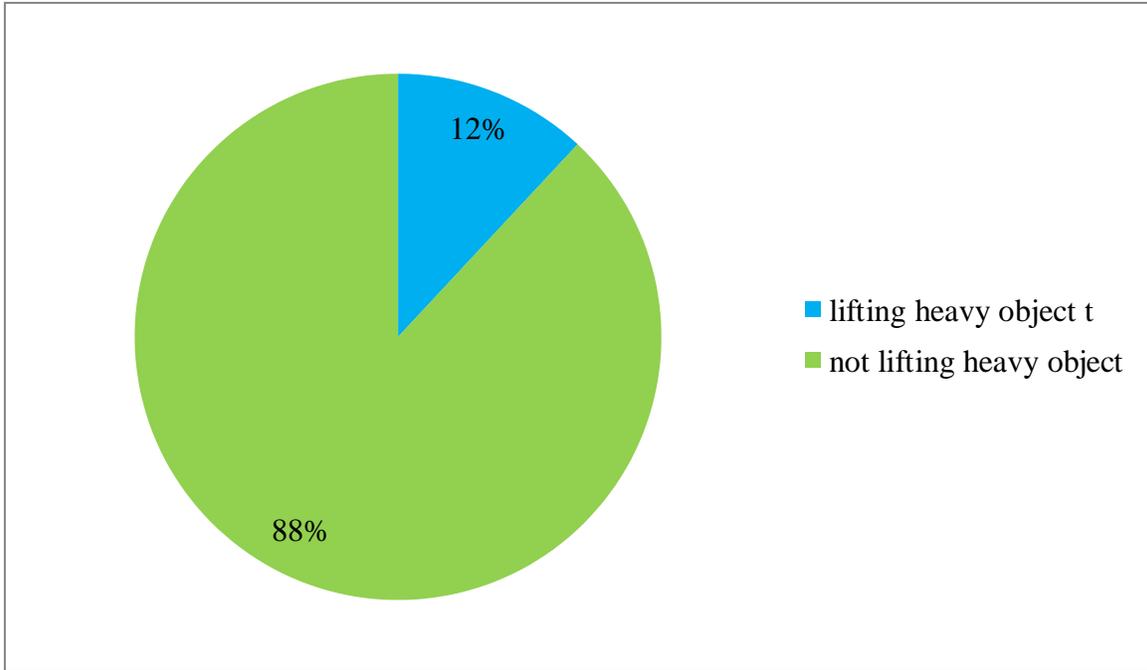


Figure-10: Lifting heavy object during work time and back pain relationship

Sitting hours and back pain relationship

Among the 100 participants 2 participants have done ≤ 4 hours sitting during work per day which 10 (11.49%) participants have experienced back pain, 8 participants have done 4-8 hours sitting during work per day which 71(81.7%) participants have experienced back pain and 3 participants have done ≥ 8 hours sitting during work per day which 6(7%) participants have experienced low back pain.

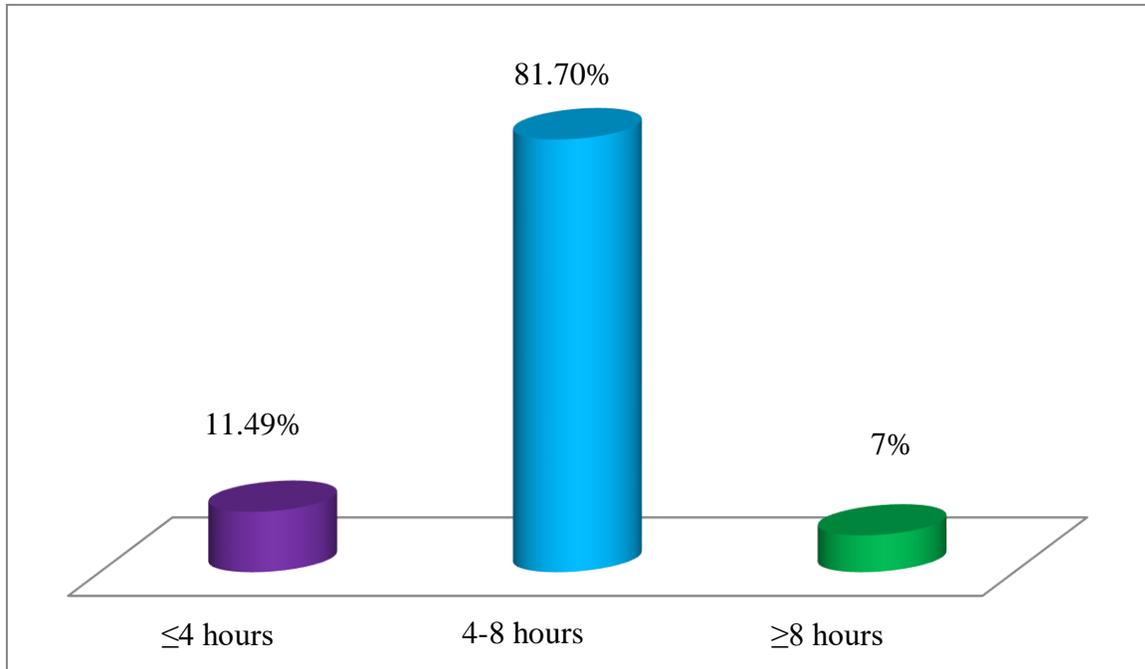


Figure-11: sitting hours and back pain relationship

Body distance from computer screen and back pain relationship

Among the 100 participants 2 participants have 0cm body distance from computer screen during work per day which 5 (5.74%) participants have experienced back pain, 6 participants have ≤ 50 cm body distance from computer screen during work per day which 54(62.06%) participants have experienced back pain, 5 participants have 50-100 cm body distance from computer screen during work per day which 25 (28.8%) participants have experienced low back pain and 0 participants have ≥ 100 cm body distance from computer screen during work per day which 3 (3.44%) participants have experienced back pain.

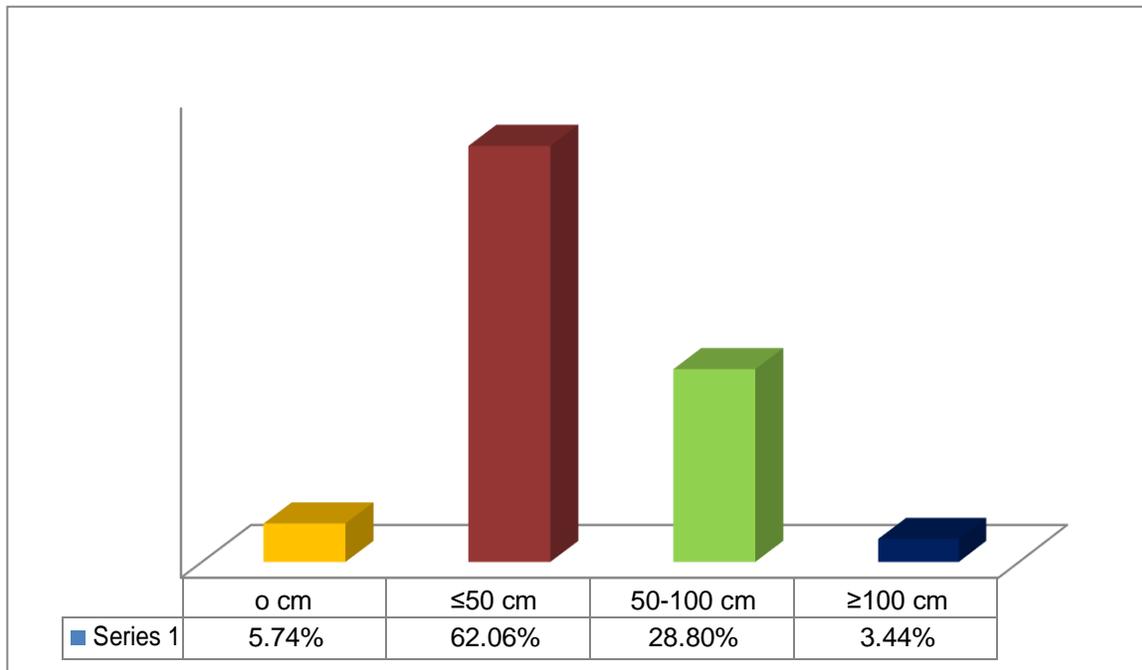


Figure-12: Body distance from computer screen and back pain relationship

Type of chair and back pain relationship

Among the 100 participants 7 participants have used hard type of chair during work per day which 46 (52.9%) participants have experienced back pain, 1 participants have used soft type of chair during work per day which 21(24.13%) participants have experienced back pain ,4 participants have used soft cushion type of chair during work per day which 17(19.54%) participants have experienced low back pain ,1 participants have used flexed type of chair during work per day which 2(2.29%) participants have experienced back pain and 0 participants have used movable type of chair during work per day which 1 (7.7%) participants have experienced back pain.

Type of chair	Unaffected participants (n=13)		Affected participants (n=87)	
	Number	percentage	Number	percentage
Hard	7	53.9%	46	52.9%
Soft	1	7.7%	21	24.13%
Soft cushion	4	30.8%	17	19.54%
Flexed chair	1	7.7%	2	2.29%
Movable chair	0	0%	1	7.7%
Total	13	100%	87	100%

Association in between gender and usual body position among office workers

Association in between gender and usual body position during working time among the participants

Gender	Usual body position		Number	Percentage	P value
	No forward bending	Forward bending >2h			
Male	54	17	71	71%	0.001
Female	11	18	29	29%	

Result shows a significant correlation in between gender and usual body position during work among office workers the chi square value of them was 13.15 and p value was 0.001 which was significant.

The aim of the study was to identify the prevalence of low back pain among the long time sitting office worker. The researcher took 100 samples and tries to find out the prevalence of low back pain among the office worker. By this study it has been found that near the (87%) of the participant suffered from low back pain. LBP prevalence in past month among office workers in Costa Rica (46.0%) and Nicaragua (44.2%) than, for example, those reported in Japan (22%) (Matsudaira et al., 2011) and Sri Lanka (12%). LBP prevalence in last 12 months in Costa Rica (67.9%) and Nicaragua (61.1%) was also higher than among office workers in New Zealand (45%) and office clerks in the 27-country Fourth European Working Conditions Survey (42.3%).

Using data from other studies, a systematic review on the epidemiology of LBP found the 1-year incidence of LBP to lie in a range from 1.5% to 36% (Hoy et al., 2010). Our finding for the one-month prevalence of new LBP in Costa Rica (14.9%) is within this range, whereas that for Nicaragua (37.0%) is slightly higher. The same systematic review reported 1-year prevalence for LBP in a range from 0.8% to 82.5%, and our results for Costa Rica (67.9%) and Nicaragua (61.1%) are within this range. Because only a limited number of studies have examined differences between countries in the prevalence of LBP among workers, we also compared our results to findings from a systematic review of population-based studies of LBP. The prevalence of low back pain in elderly Brazilians was 65.2% (Miranda et al., 2012).

Near about one third (70.11%) male participants showed greater prevalence of back pain. The findings from this study showed that 70.11% male are affected in back pain whether the female participants are 29.9%. 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, 2003). 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).

The Study shows 86.20% participants were married, 13.8% were unmarried; 0% were divorced; 0% were separated. According to our results, point and lifetime prevalence of LBP

was low among single people with significant association between marital status and LBP, which was similar with the results found by other authors (Biglarian et al., 2012).

The study shows 1.14% participants completed primary education, 2.30% participants had completed JSC, 6.89% participants completed SSC, 33.33% participants completed HSC, 29.89% participants had undergraduate completed, 19.54% participants had graduate completed, 6.89% participants had Masters and above completed (Siddiqui et al. 2012) found their study that eight (26.7%) subjects never attended school, four (13.3%) had only primary educations, 18 (60%) had more than primary level education. A study in Iran showed that among the participant 33.9% completed their basic educational level, 20.2% completed moderate educational level and 15% completed their higher education, where most affected group completed their basic educational level (Biglarian et al., 2012). Individuals who had some postsecondary education in general had less chronic LBP (Alkherayf & Agbi., 2009). So lower educational level, people are more vulnerable for developing low back pain.

The study reveals that among the affected participants, thin 0%, medium 71.26%, overweight 19.54%, and obese 9.19%. In large rural Australian Aboriginal area observed that most of the patients of LBP were obese 45% and 26% were overweight and also found that females and individuals with greater than normal BMI displayed higher percentages of LBP lifetime prevalence.

Most frequent age range of participants (25.28%) has suffered from back pain in between 25-30 years, 31-40 years followed by (27.58%), 41-50 years followed by (25.28%), participants 51-58 years followed by (21.9%). The youngest age category formed 25-30 years, (25.28%) participants while 51-58 years old was 21.9% suffered from low back pain. The results of this study showed that the majority of the population experienced LBP for the first time between 31-40 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 38 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). Generally, the reported LBP prevalence among teenagers was lower than in adolescents. Similar reviews on this subject indicated that LBP prevalence increased in older age (Pourmalek et al., 2009). We found a higher LBP prevalence in middle-aged patients; the age that represents the most economically productive years of working life. This may negatively affect a person's financial, social, and productivity conditions.

This study showed that the relation of working duration and back pain is 6-9 hours of work per day which 57.47% participants have experienced back pain, 10-13 hours of work per day which 42.52% participants have experienced back pain. This study is nearly related with the study of (Maryam et al, 2010) which showed that 8 hours duration of working participants experienced pain 22.6%.

In this study 10 (11.49%) participants maintained ≤ 4 hours sitting posture during their working time, 71(81.7%) participants maintained 4-8 hours sitting posture during their working time and 6(7%) participants maintained ≥ 8 hours sitting posture during their working time. 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 91.18% (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 64.37%. The second highest category was the intensity from 1-4 32.19%. The intensity, 8-10 3.44%, category was only experienced by 87% 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. Sitting and standing time were found to be significantly associated with point

prevalence of LBP. According to results, prevalence of LBP rises with increasing the sitting time which is consistent to other study results (Omokhodion et al., 2003).

The study showed that 44.9% participants job experience were 1-9 years, 39.08% participants were 10-19 years, and 16.09% were ≥ 20 years. Work related and ergonomic factors also showed significant differences. LBP is associated with increasing working years as shown in the results, while another study showed that LBP was least among those office workers who had work experience for less than 10 years (Janwantanakul et al., 2011).

The study showed that 2 participants have no body distance from computer screen during work per day which 5 (5.74%) participants have experienced back pain, 6 participants have ≤ 50 cm body distance from computer screen during work per day which 54(62.06%) participants have experienced back pain, 5 participants have 50-100 cm body distance from computer screen during work per day which 25(28.8%) participants have experienced low back pain and 0 participants have ≥ 100 cm body distance from computer screen during work per day which 3(3.44%) participants have experienced back pain

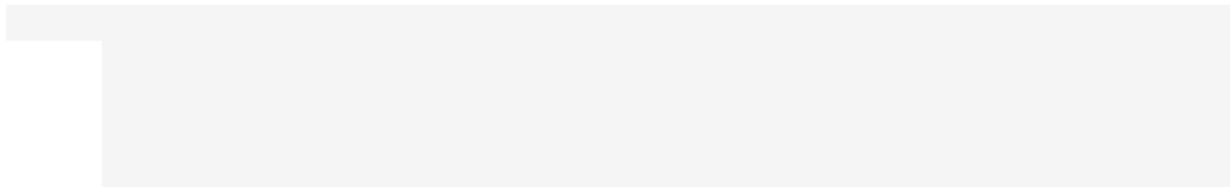
The distance from the computer screen was not a significant predictor in this research but it might be a factor for body adjustment to a non-neutral position which stresses the lumbar region and produces pain. The forward bent body position increases spinal loading and contributes to LBP, but according to a systematic review, occupational bending or twisting is not likely the cause of LBP in workers and the association was often rated as weak or moderate (Wai et al., 2010).

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 result of this study showed that the prevalence of LBP is 87% among the office workers. 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 office worker were collected from various governmental and non- governmental offices. 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 office workers was 87.00%. Ratio of back pain was significantly higher in male office workers (70.11%). 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 long time forward bending, 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. Some risk factors associated with LBP were identified, including BMI, backbone crookedness, household work, maintaining same posture for a long period of time and stressful life.

Educational programs may have a valuable rule in LBP prevention. Office worker 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.



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APPENDIX

VERBAL CONSENT STATEMENT

Assalamualaikum/Namasker, my name is Tofayel Ahamed, 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 in long time sitting position among the office worker” 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 Tofayel Ahamed, researcher and/ or Zahid Hossain, 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 Interview-----

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মৌখিক অনুমতিপত্র

আসসালামু আলাইকুম,

আমার নাম তোফায়েল আহমেদ,আমি বাংলাদেশ হেলথ প্রফেশনস ইনস্টিটিউট (বিএইচপিআই) এ বিএসসি ইন ফিজিওথেরাপি এর ৪র্থ বর্ষের একজন ছাত্র ।কোর্স কারিকুলাম অনুসারে স্নাতক পর্যায়ে আংশিক সমাপ্তির জন্য “অফিস কর্মকর্তা কর্মচারীদের কোমর ব্যথার হার নিরূপণ” নামক একটি রিসার্চ করছি।রিসার্চের লক্ষ্য সম্পাদনের জন্য অংশগ্রহণকারীকে প্রশ্নোত্তর পর্বগুলো পূরণ করতে হবে।এ গবেষণার মাধ্যমে আমরা অফিস কর্মকর্তা কর্মচারীদের কোমর ব্যথার 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 অংশগ্রহণ 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।

অংশগ্রহণকারী হিসেবে এই অধ্যয়ন নিয়ে আপনার কোন সংশয় বা প্রশ্ন থাকলে,সরাসরি যোগাযোগ করতে পারেন-তোফায়েল আহমেদ ,৪র্থ বর্ষ , বি.এস.সি ইন ফিজিওথেরাপি / জাহিদ হোসাইন, লেকচারার,বিএইচপিআই, সি আর পি সাতার ঢাকা-১৩৪৩ ।

সাক্ষাৎকারের আগে আপনার কোন প্রশ্ন আছে ?

সুতরাং ,সাক্ষাৎকারের জন্য আমি কি আপনার অনুমতি পেতে পারি?

হ্যাঁ-----

না-----

সাক্ষাৎকারীর স্বাক্ষর-----

গবেষকের স্বাক্ষর-----

Prevalence of low back pain in long time sitting position among the office worker

Questionnaire

Interview Schedule Part- I: Personal details		
1.1	Name:-	Date of Interview:
1.2	Address: Village/house no..... PO..... PS..... District.....	Contact no:
Part- II: Socio-demographic Information		
2.1	Age	1 = (In year)..... Yrs
2.2	Gender	1 = Female 2 = Male
2.3	Body weightKG
2.4	Heightcm
2.5	BMI
2.6	Marital Status	1=Married 2=Unmarried 3=Divorced 4=Separated

2.7	Educational level?	1 = PSC 2 =JSC 3 =SSC 4=HSC 5= undergraduate 6 = Graduate 7 =Masters & above
2.8	Type of occupation	1.Computer operator 2. Desk job 3.Bank job 4.Finance Officer 5.Audit Officer 6.Administrator Officer 7. Cashier 8.Head clerk 9.Manager 10.Data entry operator 11.Office assistant 12.MLSS 13.Others
2.9	Working time hours/days
2.10	Personal Habits such as smoking	1. Yes 2.No
2.11	Alcohol Consumption	1. Yes 2.No
2.12	Diabetes mellitus	1. Yes 2.No
2.13	Hypertension	1. Yes 2.No
2.14	Stress at work	1.Never 2.Sometimes 3.All the time
2.15	Sleep disturbances(Times/week)	1=No disturbance 2=1-2 3=3 No sleep
2.16	Which posture do you prefer during sleeping?	1= Supine lying..... 2= Prone lying..... 3=Side lying.....

2.17	Regular physical exercise per week	1=None 2= 1-2 days 3=3-4 days 4=Almost 7 days
2.18	Satisfaction level of job	1=None 2=Little 3=Enough 4=Very much

Part-III: Back pain related Information (To be collected from Record/ Care provider/Clinical examination)		
QN	Questions	Responses/Answers
3.1	Have you any low back pain?	1=Yes 2=No
3.2	How severe is your pain on pain numeric Scale?	<hr style="width: 80%; margin-left: 0;"/> 0 1 2 3 4 5 6 7 8 9 10
3.3	Previous history of working as an office worker	1.yes 2.No
3.4	Years of work experience	1=1<10 2=10-19 3= \geq 20
3.5	Duration of using computer per day	1=4-6hours 2=7-9hours 3=10-12hours
3.6	Body distance from computer screen(cm)	\leq 50 50-100 \geq 100

3.7	Standing time per day(h)	1=1-2 2=2-4 3=4-6 4=>6
3.8	Sitting hours(h)	1= \leq 4 2=4-8 3= \geq 8
3.9	Usual body position	1=No forward bending 2=forward bending>2h
3.10	Back support in chair	1=Yes 2=No
3.11	Chair having lumbar support	1=Yes 2=No
3.12	Back adjustment	1=Yes 2=No
3.13	Have you lifting heavy object during work time?	1=Yes..... 2=No.....
3.14	Do you lift any heavy weight in your ADL?	1=Yes 2= No

3.15	Do you feel any pain during heavy weight lifting?	1= Never 2= Sometime 3= Often 4= All time
3.16	Type of chair	1.Hard 2.Soft 3.Soft cushion 4.Flexed chair 5.Movable chair 6.Others
3.17	Whether the chair has arm rests	1.yes 2.No

প্রশ্নপত্র

শিরোনাম-দীর্ঘসময় বসে থাকার কারণে অফিসকর্মচারীদের মধ্যে কোমরব্যথার ব্যাপকতা

পর্ব-১। রোগীর সনাক্তকরণ: (রোগীর তালিকা পুস্তক/রোগীর নিকট থেকে সংগৃহীত)

১.১	নাম:-
১.২	সাক্ষাৎকারের তারিখ:-
১.৩	ঠিকানা:- গ্রাম/বাড়ী নং- ইউনিয়ন:- জেলা:- উপজেলা:-
১.৪	মোবাইল নম্বর:-

পর্ব:-২। বোগীর সামাজিক জনসংখ্যাতাত্ত্বিক তথ্যাবলী:- (বোগীর তালিকা পুস্তক/বোগীর নিকট থেকে সংগৃহীত)-

২.১	বয়স	১=.....বছর
২.২	লিঙ্গ	১=পুরুষ ২=মহিলা
২.৩	শরীরের ওজনকেজি
২.৪	উচ্চতাসেমি
২.৫	বিএমআই
২.৬	বৈবাহিক অবস্থা	১=বিবাহিত ২=অবিবাহিত ৩=তালাকপ্রাপ্ত ৪=পৃথক

২.৭	আপনার শিক্ষা অবস্থা কি?	১=পিএসসি ২=জেএসসি ৩=এসএসসি ৪=এইচএসসি ৫=স্নাতক ৬= স্নাতকোত্তর ৬=মাস্টার্স এবং তদূর্ধ্ব
২.৮	পেশার ধরন	১=কম্পিউটার অপারেটর ২=ডেস্ক জব ৩=ব্যাংক জব ৪=হিসাবরক্ষক কর্মকর্তা ৫=হিসাবনিকাশ সম্পর্কিত কর্মকর্তা ৬=প্রশাসনিক কর্মকর্তা ৭=কোষাধ্যক্ষ ৮=কেরানি ৯=ব্যবস্থাপক ১০=ডাটা আন্লি অপারেটর ১১=অফিস সহকারী ১২=৪র্থ শ্রেণীর কর্মচারী ১৩=অন্যান্য

২.৯	কাজের সময়ঘন্টা/দিন
২.১০	ব্যক্তিগত অভ্যাস (ধূমপান/পাণ)	১=হ্যা ২=না
২.১১	অ্যালকোহল	১=হ্যা ২=না
২.১২	ডায়াবেটিস মেলিটাস	১=হ্যা ২=না
২.১৩	উচ্চ রক্তচাপ	১=হ্যা ২=না
২.১৪	কাজের চাপ	১=কখনো না ২=মাঝে মাঝে ৩=সব সময়
২.১৫	ঘুমের সমস্যা(সময়/সপ্তাহ)	১= কোন সমস্যা হয় না ২=১-২ ৩=৩ ৪=কোন ঘুম হয় না
২.১৬	ঘুমের সময় আপনি কোন অবস্থায় থাকতে পছন্দ করেন?	১=চিত হয়ে শুয়ে থাকতে ২=উপুড় হয়ে শুয়ে থাকতে ৩=কাত হয়ে শুয়ে থাকতে

২.১৭	প্রত্যেক সপ্তাহে নিয়মিত শারীরিক ব্যায়াম	১=করা হয় না ২=১-২ দিন ৩=৩-৪ দিন ৪=প্রায় ৭ দিনই
২.১৮	পেশার আত্মতৃপ্তি	১=নাই ২=সামান্য ৩=অনেক ৪=খুব বেশি

পর্বঃ-৩।কোমর ব্যথা সম্পর্কিত তথ্যাবলীঃ-(রোগীর তালিকাপুস্তক/রোগীর নিকট থেকে সংগৃহীত)-

৩.১	আপনার কি কোন কোমর ব্যথা আছে?	১=হ্যা ২=না
৩.২	পেইন নিউমেরিক স্কেল এ আপনার ব্যথার তীব্রতা কেমন?	_____
		০ ১ ২ ৩ ৪ ৫ ৬ ৭ ৮ ৯ ১০
৩.৩	অফিস কর্মচারী হিসেবে কাজের পূর্ব ইতিহাস	১=হ্যা ২=না
৩.৪	কত বছরের কাজের অভিজ্ঞতা	১=১<১০ ২=১০-১৯ ৩= \geq ২০
৩.৫	প্রত্যেকদিন কম্পিউটার ব্যবহারের সময়সীমা	১=৪-৬ঘন্টা ২=৭-৯ঘন্টা ৩=১০-১২ঘন্টা
৩.৬	কম্পিউটারের পর্দা থেকে শরীর কত সেমি দূরে থাকে	১= \leq ৫০ ২=৫০-১০০ ৩= \geq ১০০

৩.৭	প্রত্যেকদিন দাঁড়িয়ে থাকেন কত ঘন্টা	১=১-২ ২=২-৪ ৩=৪-৬ ৪=>৬
৩.৮	বসার সময়কাল কত ঘন্টা	১= \leq ৪ ২=৪-৮ ৩= \geq ৮
৩.৯	সচরাচর শরীরের অবস্থান	১=সামনের দিকে ঝুঁকে থাকে না ২=২ঘন্টার বেশি সময় সামনের দিকে ঝুঁকে থাকে
৩.১০	চেয়ারে পিছনে সাপোর্ট	১=হ্যা ২=না
৩.১১	চেয়ারে লাম্বার সাপোর্ট	১=হ্যা ২=না
৩.১২	কোমরের নিয়ন্ত্রণ	১=হ্যা ২=না
৩.১৩	কাজের সময় আপনি কি কোন ভারী বস্তু উঠান?	১=হ্যা ২=না
৩.১৪	দৈনন্দিন কাজকর্মের সময় আপনি কি কোন ভারী বস্তু উঠান?	১=হ্যা ২=না

৩.১৫	ভারী বস্তু উঠানোর সময় আপনি কি কোন ব্যথা অনুভব করেন?	১=কখনো না ২=মাঝে মাঝে ৩=প্রায়ই ৪=সব সময়
৩.১৬	চেয়ারের ধরন	১=শক্ত ২=নরম ৩=নরম গদি ৪=নোয়ান চেয়ার ৫=পরিবর্তনশীল চেয়ার ৬=অন্যান্য
৩.১৭	হাত রাখার জন্য চেয়ারে কি কোন হাতল আছে	১=হ্যা ২=না

Permission letter

19th June 2019

The Head of Department

Department of Physiotherapy

Centre for the Rehabilitation of the Paralysed (CRP),

Chapain, Savar, Dhaka-1343.

Through: Head, Department of Physiotherapy, BHPI

Subject: Seeking permission for Data collection of 4th year physiotherapy research project.

Dear Sir,

With due respect and humble submission to state that I am Tofayel Ahamed student of 4th Professional B.Sc. in Physiotherapy at Bangladesh Health Professions Institute (BHPI). The ethical committee has approved my research project entitled on "**prevalence of low back pain in long time sitting position among the office worker**" under the supervision of Zahid Hossain Lecturer of the Physiotherapy Department, CRP, Savar, Dhaka-1343, Bangladesh. Conducting this research project is partial fulfillment of the requirement for the degree of B.Sc in physiotherapy. I want to collect data for my research project from the long time sitting office worker. So, I need permission for data collection from the different office. I would like to assure that anything of my study will not be harmful for the participants. May I, therefore pray and hope that you would be kind enough to grant my application & give me permission for data collection and oblige thereby.

Yours obediently,

Tofayel Ahamed

Tofayel Ahamed

4th professional B.Sc in Physiotherapy

Roll: 27, Session: 2014-15

Bangladesh Health Professions Institute (BHPI)

(An academic Institute of CRP)

CRP, Chapain, Savar, Dhaka-1343.

Forwarded to
Head of PT, BHPI

Md
24/6/19
MD ZAHID HOSSAIN
Lecturer
Department of Physiotherapy
BHPI, CRP, Savar, Dhaka-1343

Recommended
19.06.19
Prof. Md. Obaidul Haque
Head, Department of Physiotherapy
BHPI, CRP, Savar, Dhaka-1343



বাংলাদেশ হেল্থ প্রফেশন্স ইনস্টিটিউট (বিএইচপিআই)
BANGLADESH HEALTH PROFESSIONS INSTITUTE (BHPI)

(The Academic Institute of CRP)

CRP-Chapain, Savar, Dhaka-1343. Tel: 02-7745464-5, 7741404

Ref: CRP-BHPI/IRB/09/19/1354

Date: 23/09/2019

To
Tofayel Ahamed
4th professional B.Sc in Physiotherapy
Session: 2014-15, Student ID: 112140258
BHPI, CRP, Savar, Dhaka-1343, Bangladesh

Subject: Approval of the thesis proposal “prevalence of low back pain in long time sitting position among the office workers” by ethics committee.

Dear Tofayel Ahamed,

Congratulations.

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

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

The study involves use of a questionnaire to explore find out the prevalence of low back pain among office workers that may take 10 to 15 minutes to answer the questionnaire and there is no likelihood of any harm to the participants. The members of the Ethics committee have approved the study to be conducted in the presented form at the meeting held at 11 AM on 18th August, 2018 at BHPI.

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

Best regards,

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