

# **PREVALENCE OF LOW BACK PAIN AMONG PHYSIOTHERAPY STUDENTS**

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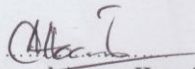
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**PREVALENCE OF LOW BACK PAIN AMONG THE PHYSIOTHERAPY STUDENTS**

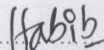
Submitted by **Md. Sabuj Sheikh**, for partial fulfillment of the requirements for the degree of Bachelor of Science in Physiotherapy (B. Sc. PT).



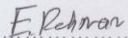
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**Declaration**

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

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## Acronyms

<b>BHPI</b>	Bangladesh Health Profession Institute
<b>BMRC</b>	Bangladesh Medical Research Council
<b>CRP</b>	Centre for the Rehabilitation of Paralysed
<b>IPAQ</b>	International Physical Activity Questionnaire
<b>IRB</b>	Institutional Review Board
<b>LBP</b>	Low Back Pain
<b>NITOR</b>	National Institute of Traumatology and Orthopaedic Rehabilitation
<b>NPRS</b>	Numeric Pain Rating Scale
<b>PA</b>	Physical Activity
<b>WHO</b>	World Health Organisation

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## Abstract

**Purpose:** To identify the prevalence of low back pain among the physiotherapy students.

**Objective:** To identify how many physiotherapy students experience of low back pain, to explore male female ratio among physiotherapy students, evaluate the which age group are more affected for low back pain, to find out physical activity level among physiotherapy students.

**Methodology:** The study design was cross sectional. Total 80 samples were selected 40 from BHPI physiotherapy students and 40 from NITOR physiotherapy students. Data was collected by mixed type of questionnaire. Descriptive statistics were used for data analysis which focused through table, pie and bar chart. Data were numerically coded and captured in Microsoft Excel, using an SPSS 20 version software program.

**Results:** The findings of the study will provide a baseline of information about low back pain among physiotherapy students. In percentage 93.75% participants suffered from LBP and 7.25% have not suffered from LBP. In BHPI physiotherapy students 90% (36) and in NITOR physiotherapy students 97.5% (39) experienced pain at least 1 in NPRS scale. Among all participants female students were 52.5% (42) and male students were 47.5% (38). In BHPI physiotherapy students 70% (28) were female and 30% (12) were male so majority of BHPI physiotherapy students were female. On the other hands in NITOR physiotherapy students 35% (14) were female and 65% (26) were male. Physical activity level of all participants 73.75% were high, 22.50% moderate and 3.75% low. Among them in BHPI physiotherapy students 72.50% did high physical activity, 25% moderate and 2.5% low physical activity. In NITOR physiotherapy students 75% did high, 20% moderate and 5% low level of physical activity.

**Conclusion:** Low back pain (LBP) is a common health problem. In this survey there was a high prevalence of LBP among physiotherapy students. Physiotherapist must focus on proper technique posture and adhere to a regimen of self-care to reduce the risk of pain.

**Key words:** Low back pain, risk factors, physical activities and physiotherapy students.

## 1.1 Background

Low back pain (LBP) is the most common orthopedic problem worldwide. According to some estimates approximately 60-80% of the general population will suffer from LBP at some point in their lifetime (Milanese et al., 2010). It is developed by The National Collaborating Centre for Primary Care (2009) that lower back is commonly defined as the area between the bottom of the rib cage and the buttock creases. Some people with non-specific low back pain may also feel pain in their upper legs, but the low back pain usually predominates. Low back pain is a very common condition affecting many individuals at some point in their lives. Low back pain is a significant health problem all over the world and is associated with disability and elevated societal costs (Costa et al., 2009). Chronic low back pain is defined as pain and discomfort between the costal margins and the gluteal folds, with or without leg pain that lasts for more than 12 weeks. Most episodes of low back pain are not related to a specific spinal pathology (e.g., infections, tumors, fractures or nerve root compromise), and the pain is labeled as “non-specific” (Burton et al., 2006). Prevalence of non-specific low back pain in 28 countries found that adult lifetime prevalence estimates range between 11% and 84%. In Brazil, the 2008 National Household Survey found that chronic low back pain was the second most prevalent chronic condition after systemic arterial hypertension (Barros et al., 2008).

Low back pain (LBP) is the leading cause of disability and inability to work, and estimated to affect up to 90% of people at some point in their lives (van Hooff et al., 2012). Punnett et al. (2005) showed that a lot of studies have attempted to detect and evaluate the role of different demographic, physical, socioeconomic, psychological, and occupational factors to the development of spinal pain. It is interesting that 37% of LBP worldwide are attributable to occupational risk factors, which represent many potentially preventable sources of pain. In Netherland & Belgium LBP prevalence rates are 30% and 40% was recorded among workers, in Italy 60% of LBP are recognized as occupational diseases, in France LBP accounted for 40% (Fernandes et al, 2011).

Physical work demands that have been clearly associated with LBP include heavy physical work, manual materials handling, frequent bending and twisting and whole body vibration (Tissot et al, 2009). In the working-age population, LBP has the highest health care use among all chronic diseases, resulting in a heavy economic burden given its prevalence and consequences; LBP is a major occupational health concern (Wai et al., 2010). Low back pain is the most common causes for chronic or permanent impairment in United State adults under the age of 65, & the most common cause of activity limitations in persons under the age of 45 (Sabino & Grauer, 2008).

It is important to note that exposure to many of these physiotherapy work activities commences from the period of undergraduate physiotherapy training thus making LBP a likely occurrence among physiotherapy students. The potentially deleterious postures physiotherapy students assume during other training-related activities such as prolonged sitting during lectures or personal study and practical classes involving practice of tests and therapeutic techniques may also increase the risk of LBP (Nyland & Grimmer, 2003). With the potentially high risk of LBP among physiotherapy students, several studies have explored the subject matter in different parts of the world (Horrell et al., 2010). Low back pain (LBP) is a social and economic health problem that affects population of all ages globally. Studies have reported that approximately 12-80% of younger population, mainly student's experience LBP (Korovesis et al., 2010).

Many physiotherapists report the onset of LBP during undergraduate course. In fact, physiotherapy students are potentially exposed to the same LBP occupational risks as graduates, such as poor working postures and frequent manual handling activities, often undertaken in difficult environments and with variable training regarding personal safety. In order to evaluate the association between undergraduate physiotherapy study and LBP, I developed a prevalence study with physiotherapy students in two institute, analyzing the possible confounding factors in a logistic regression model.

## **1.2 Rationale**

Some studies have demonstrated that physiotherapists have a high prevalence of low back pain (LBP). The association between physiotherapy students, who are potentially exposed to the same LBP occupational risks as graduates, and LBP has never been demonstrated. The objective of the study is to evaluate the association between undergraduate physiotherapy study and LBP. From this study final year physiotherapy students will be able to identify the risks that can influence their physical activities and that causes their back pain. This study will also help to improve their awareness, especially about their sitting and standing posture when in class lectures or in practical sessions and patient handling during their placement time. From this study researcher can identify the physical activities of physiotherapy students and posture which are harmful for the physiotherapy students because physiotherapist have to do lifting and transferring. So the study may help to their awareness about their posture.

Many studies have done about prevalence of low back pain among the different occupations such as nurses, surgeons, medical students and physiotherapy students. But there is lack of researches about increased prevalence of LBP among the physiotherapy students compared to medical students.

### **1.3 Research question**

What is the prevalence of low back pain among the physiotherapy students?

## **1.4 Research Objective**

### **1.4.1 General objective**

To identify the prevalence of low back pain among the physiotherapy students.

### **1.4.2 Specific objective**

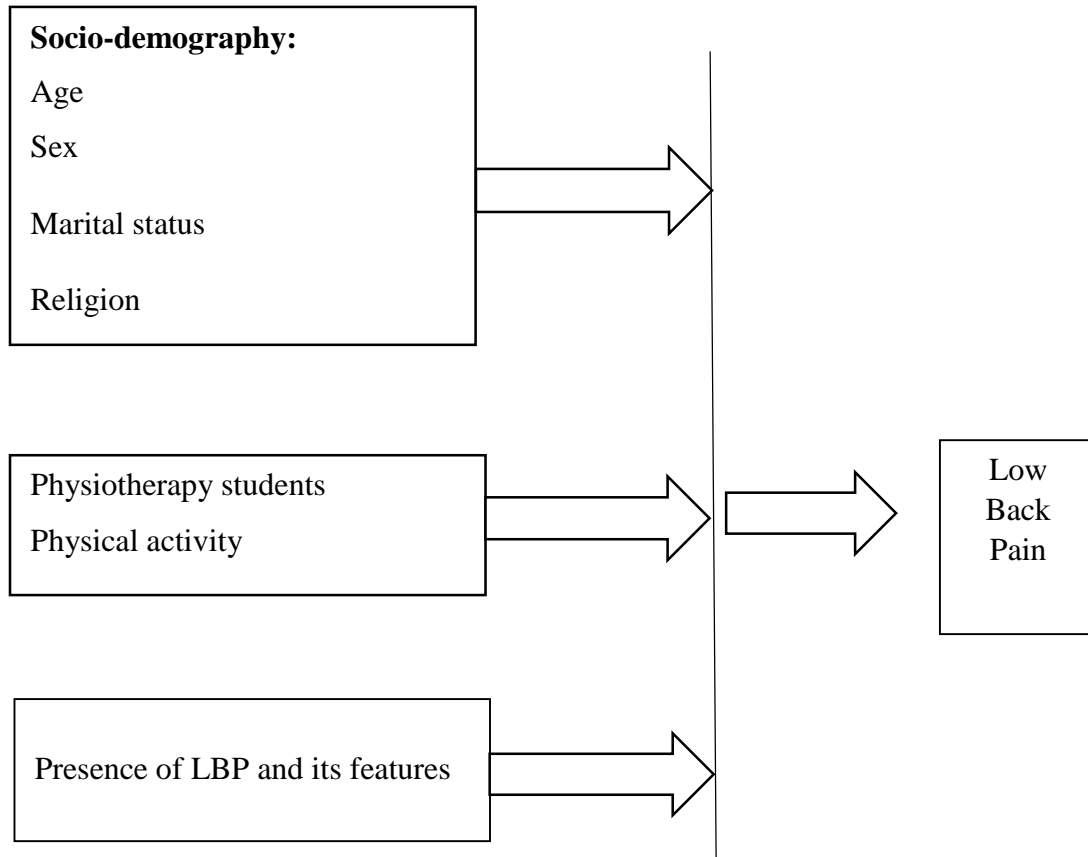
- To identify the percentage of male and female physiotherapy students among the low back pain sufferers.
- To demonstrate which aged group were more affected.
- To identify the pattern of onset of pain.
- To measure the severity of pain at NPRS scale such as right now pain, usual level of pain, best level of pain and worst level of pain.
- To identify physical activities among physiotherapy students.

## 1.5 List of variables

### Conceptual Frame Work

#### Independent variables

#### Dependent variable





## **1.6 Operational Definition**

### **Prevalence**

The degree to which something is prevalent, especially the percentage of a population that is affected with a particular disease at a given time.

### **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.

### **Physiotherapy**

Physiotherapy uses proven techniques to help restore movement and function to anyone affected by an injury, disability or health condition. It's a therapy that can help you achieve movement for life.

There is abundance of information regarding prevalence of LBP among university students, many of whom are health professional students. A review on LBP risk factors among these students concluded that there was diversity in risk factors examined and the results were inconsistent (Smith & Leggat 2007). Identified LBP risk factors included, gender, age, posture, smoking, psychosocial factors, general health status, duration of computer usage, physical activity levels and history of prior LBP experience (Smith & Leggat, 2007).

Hoy et al. (2012) stated in their systematic review study that although chronic LBP is highly disabling, information about its prevalence and associated factors are scattered in the literature. Moreover, they found great variability among studies as to the characterization of chronic and low back pain. The literature also suggests that older adults are more resilient to pain due to factors related to ageing, such as cognitive impairment and decreased pain perception.

Low back pain (LBP) is common and affects most people at some point in their life. The exact cause of LBP among professional car drivers is still uncertain. Epidemiological studies of LBP have been performed among general populations and professional drivers in different countries. However, the data on LBP in this professional category is scarce in Bangladesh. A cross-sectional study was performed during December 2010 using a questionnaire and car drivers who experienced back pain for at least one day during the past 12 months were included in the study. The study demonstrated that 78% of car drivers reported LBP for at least one day during the past 12 months. Occupational health and safety management interventions should be implemented to prevent adverse health effects in professional car drivers (Nahar et al., 2012).

The prevalence of low back pain is 51% among shopkeepers at Savar Bazar in Dhaka, Bangladesh. And this may be associated with the type of repetitive body movements, poor posture, and long working hours. The author recommend that working hour should be reduced or need adequate rest within the working hours, avoid twisting & excessive

rotational movements during serving the customers, postural correction such as maintain erect posture who are working on floor sitting, need back rest who are working by sitting on the chair, need to sit or walk for few times who are working with standing posture because those are the main causes of low back pain in case of shopkeepers. Shopkeepers should be educated on ergonomics, posture, working hour breaks in between work and relaxation as this will ultimately improve healthy life & performance in the shops (Kamal, 2012).

The UK health service spends more than 1 billion on related costs, including and physiotherapy treatments, with similar high costs seen in other developed countries. LBP is a major cause for long term sickness amongst the workforce, and has been estimated to cost UK employers as much as 624 million per year, with 119 million works days lost each year. In the UK patients with LBP are routinely referred to physiotherapy (Savigny et al., 2009).

The lumbar spine consists of five vertebrae. These vertebrae have heavy thick bodies to support the greater stress and weight as they serves as major load bearing portion of the vertebrae. Biomechanical functions of these spines are transmitting forces (weights), bending moments to the pelvis, allowing motions and protecting the spinal cord (Lee, 2006).

The ligaments of lumbar spine are anterior longitudinal ligament (ALL), posterior longitudinal ligament (PLL), interspinous ligament, intertransverse ligament and ligamentum flavum (LF). The ALL maintains the stability of the joints and limits extension. The PLL limits flexion except at the lower lumbar spine where it is narrow and weak. The intertransverse ligament resists lateral bending of the trunk. During flexion ligament becomes stretched and during extension it becomes contracted. As a whole ligament permit sufficient physiologic movements, protect the spinal cord and provide stability to the spine. The spinal cord is enclosed within the spinal canal. The spinal canal works as follows: when the spine is extended it decreases in length and increased when the

spine is flexed. Small nerve roots branch off from the spinal cord through spaces called neuroforamen (Lee, 2006).

Low back pain may or may not pass on to the lower limb and into the groin or perineum. When pain is referred in the lower limb associated with LBP then it may either somatic referred pain or radicular pain. Pain extending across relatively wide region and felt deeply, in a relatively constant or fixed location and it is called somatic referred pain. Pain that move by the side of the length of the lower limb, along a narrow band and it is called radicular pain or sciatica. When pain is persist in the buttock or proximal thigh extending below the knee is not necessarily radicular pain. A patient does not necessarily have to exhibit neurological features to be suffering from radicular pain, but the presence of neurological features (motor weakness, sensory deficit, or numbness) favours the diagnosis of radicular (sciatic) pain. Somatic referred pain indicates when patient feel deep aching pain (Kilpikoski, 2010).

The association between obesity and chronic LBP observed in both surveys along with the increased prevalence of obesity may be another factor contributing to the increase in chronic LBP. The proportion of the sample with body mass index  $\geq 25$  increased from 49% to 62%. Although the method for assessing body mass index changed between surveys, population studies suggest that the magnitude of the difference in self-report and measured height and weight is small although the self-report generally underestimates body mass index (McAdams et al., 2007). This might reflect important changes in lifestyle and in the world of work. The intensive use of computers at work and at home as well as other technologies has increased sedentariness – a risk factor for chronic and acute low back pain due to muscle weakness (Knuth et al., 2009). Obesity is also related to lifestyle and is a known risk factor for chronic LBP as it promotes overloading of the articular structures of lumbosacral spine, which become predisposed to degeneration (Meucci et al., 2013). The increase in chronic LBP prevalence among individuals aged 30 to 60 may also be related to occupational and domestic exposures that overload the low back along with the degenerative articular process shown after 30 years of age. Although chronic LBP stabilizes or reduces from the seventh decade of life on, its prevalence remains high when

compared to younger individuals (aged 20-30). This reduction among older people may be due to reduced exposure to occupational and everyday activities that increase the risk for (Johannes et al., 2010). The higher proportion of chronic LBP among smokers, this is caused by the systemic effects of nicotine on the joints of the spine, accelerating the joint degeneration process, and increasing the potential of transmission of pain impulses in the central nervous system (Meucci et al., 2013).

To date, there is limited evidence to recommend suitable prevention strategies of LBP in younger populations. Presently, modifying the risk factors associated with LBP is advocated as the most important prevention strategy in school children and adolescents. The prevention strategy of LBP can only be successful if its contributory and associated risk factors are identified and better understood. In the Malaysian context, studies on LBP have focused on working adults (Nurul Izzah et al., 2010). Age, years of study, physical fitness and hours spent sitting per day were found to be associated with LBP among health science students. It adds to the body of knowledge regarding LBP and its risk factors among Asian health science students. Physical fitness and prolonged sitting are modifiable risk factors that should be addressed by clinicians in prevention of LBP among young adults (Nordin et al., 2014).

Regular physical activity of moderate intensity, such as walking, cycling, or other sports, has significant benefits for health. Moreover, regular and adequate levels of physical activity reduce the risk of falls as well as hip or vertebral fractures, and are fundamental to energy balance and weight control (Triki et al., 2015). It has been postulated that sustained awkward seating posture (lordosed or kyphosed, overly arched, or slouched) can result in higher intradiscal pressure and may be injurious to spinal postural health. Therefore, awkward postures while sitting have been described as possible risk factors for the presence of LBP (Lis et al., 2007).

Low back pain (LBP) is the most common orthopedic problem worldwide and is known to affect both younger and older adults (Aggarwal et al., 2015). The relationship between sports and LBP in adolescents appears to be curvilinear, and all levels of physical activity

are associated with an increased risk of LBP in adolescents (Auvinen et al., 2008). The particularity of physical activity has also been related to risk of LBP in adolescents, and special risks are posed by activities that put a lot of stress on the lumbar spine such as gymnastics, wrestling, rowing, diving, and football. Other sports such as swimming that put less pressure on the lumbar spine have a lower risk of causing LBP (Skoffer & Foldspang, 2008). The risk factors for and the prevalence of LBP among elite youth athletes in three sports like resilient to field hockey, speed skating, and football. They indicated that there is a strong connection between certain sports and LBP. The authors explained that certain motions, stresses, and actions of the athlete may influence LBP (van Hilst et al., 2015).

LBP is also the most-reported work-related disorder in many countries. Most people experience one or more episodes of LBP in their lifetime; this causes high healthcare costs, work absenteeism, and disability. Quality of life becomes the major concern for people with LBP (Suka & Yoshida, 2008). Generally speaking, females and elderly people report more LBP. The association between low socioeconomic status and low back pain was noted in a previous study. Occupations such as nurses, cooks, drivers, school employees, office workers, and industrial employees have been reported as vulnerable to LBP because of standing for long periods, lifting heavy goods, and inadequate rest (Spyropoulos et al., 2008). As symptoms of LBP often persist, the majority of patients have reported symptoms recurring more than once a year (Shiri et al., 2008). This population-based study of adults in Taiwan suggests that sociodemographic factors and lifestyles were significantly associated with risk of LBP. It also demonstrates the influence of gender on osteoporosis and risk of LBP (Liao & Chou, 2013).

LBP is no longer the disease of the old. Surprisingly, 39.8% of the adolescent population is also found to suffer from LBP (Pellisé et al., 2009). It limits daily activities in 10-40% of adolescents. In the US, LBP has been reported as the major factor responsible for limiting peoples' activities in those aged below 45 years and is a common patient complaint in clinics and frequent reason for hospitalization and surgery. In India, approximately 35% of people suffer from chronic LBP, which significantly hampers their day-to-day routine

(Aggarwal et al., 2013). The level of students' many daily activities (regular, occasional, never) including outdoor sports, physical activity, yoga, watching television, working on the computer, driving, travelling by public transport, carrying backpacks, meeting friends, drinking coffee and alcohol, smoking, wearing heels for girls was assessed for association with LBP. Abnormal body posture and studying in bed were found to be significantly more common among students suffering from LBP. Accurate guidance to students should be provided for correct standing, sitting, lying, and bending postures. The family history of LBP was found to be significant in those suffering from LBP, consistent with research done elsewhere (Aggarwal et al., 2013).

Occupational exposure, strenuous workload, frequent lifting, bending and twisting and extreme sport activities are well accepted risk factors for low back pain. At the same time, there is some suggestion that an inactive or sedentary lifestyle is associated with back pain complaints. In addition, it is possible that different dimensions of physical activity may have different relationships with low back pain (Jacob et al., 2008). And that relationships are dependent on individual factors such as physical fitness or health perceptions. The lack of evidence in the role of physical activity for LBP is partly due the lack of uniform definitions of both physical activity and back pain, which makes outcomes difficult to interpret, and also because measuring the levels of physical activity is very complex. Most studies either use a very global measure for physical activity resulting in definitions such as physical inactivity or only engaging in leisure time activities, or use a very occupational-specific measure such as a physical load, suggesting a detailed insight in a potential low back pain risk. In many occupations, however, exposure to physical load is not limited to one force but encompasses a compilation of forces such as flexion, rotation, lifting and carrying (Heneweer et al., 2009).

The prevalence of LBP amongst medical students is higher compared to physically more active students could not be confirmed. The 53.4% 12-month prevalence of sub-acute and chronic LBP among medical students scores relatively high as compared with the prevalence rates for the general population (Brennan et al., 2007) this indicates a serious

health threat to our young generation. The same is true for the physical education students. The early onset of low back pain in young adults is a condition which should not be ignored. A prolonged lifetime exposure to risk factors increases wear and tear in the lower back leading to elevated injury rates at older age (Brennan et al., 2007). Therefore increasing age is considered to be a risk factor for the occurrence of LBP although the risk decreases after a certain age (Thomas et al., 1999).

Brennan et al. (2007) also showed that low back pain (LBP) is the primary cause of medical consultations and it has a major economic impact on the healthcare system in many countries. In the United States total costs related to this condition reportedly exceed 100 billion per year. LBP is known to affect both older and younger adults, interfering with their quality of life and work performance. Some studies have demonstrated that physiotherapists have a high prevalence of LBP. Campo et al. (2008) stated that the activities of these professionals are related to the development of this pain. It is estimated that up to 60% of LBP events in this group occur as a consequence of work-related injuries.

Low back pain (LBP) is as old as humanity itself. Over the years, the prevalence of the condition has been reported among different populations with particular interest in various occupational groups. LBP resulting from occupational and work-related activities (Lis et al., 2007). It is however interesting to note that health care professionals are not exempt from the scourge of LBP. Consequently, several studies have focused on the prevalence of LBP among various health care professionals including physiotherapists (Mohseni-Bandpei et al., 2011). Campo et al. (2008) also stated that physiotherapists are professionals trained to, among other services, provide rehabilitative care in a wide range of disabling conditions with the aim of restoring, maintaining, and promoting function. Interventions utilized by physiotherapists often entail a considerable amount of “hands-on” techniques that are characterized by repetitive movements, prolonged standing, and somewhat difficult postures. Transferring and lifting patients are also common work activities in physiotherapy and such activities are considered risk factors for LBP and have been linked to its onset.



The medical students were approximately 2.5 times less physically active than the science of sport students. They spent 3 more hours per day sitting, in the first place because lectures and study time engaged them almost twice as much. In other words, the medical students had a considerably more sedentary lifestyle. Nyland and grimmer (2003) also observed a 63% 12-month prevalence of LBP in physiotherapy students and felt that “a sitting and looking down position” could be an additional risk factor for LBP for other university students. Recently a systematic review conducted by Chen et al. (2009) confirmed these findings, claiming that a sedentary lifestyle is not necessarily associated with LBP. The genesis of LBP rather seems to be multifactorial, depending on genetics, environment and other possible risk factors (Brennan et al., 2007). These negative reports about the influence of sitting offer a potential explanation why the sample groups in this study showed no statistically significant difference in the occurrence of LBP in general, acute/subacute LBP, or chronic LBP, despite the medical students having a considerably more sedentary lifestyle. The influence of other risk factors, such as an increased female/male ratio (Leboeuf-Yde et al., 2009) or an increased BMI could be partially excluded, as the groups were comparable from that viewpoint (Bejia et al., 2005). However, the significantly higher age of the sports students was a real risk factor. Variables which were not assessed in this study, but should be investigated in further studies, are smoking (Alkherayf et al., 2009).

### **3.1 Study design**

This cross-sectional study has been carried out. A self-administered questionnaire has been completed by physiotherapy students of BHPI and NITOR. The students will be invited to become involved in the study during their classes. All classes of both courses visited by the researchers during the data collection period. After accepting to participate in the study and signing the letter of consent they will complete the questionnaire. The purpose of the study was to find out the prevalence of low back pain among the physiotherapy students. Cross sectional study design was selected for this study. This design involves identifying group of people and then collecting the information that researcher requires when they will be use the particular service (Hicks, 2000). Survey research is one of the most common forms of research that involves the researchers asking a large group of people questions about a particular topic or issue and these are related to the interest of the participant. Survey is a method of collecting data which involves the researcher measuring relevant sample variables (often using s questionnaire) without any form of manipulation or systemic intervention (Hicks, 2000). The cross sectional study design is usually cheaper and quicker and confounding variables can be controlled for during data analysis.

### **3.2 Area of the study**

Sample were collected from Bangladesh Health Professions Institute (BHPI) and National Institute of Traumatology and Orthopedic Rehabilitation (NITOR).

### **3.3 Population**

In this study population were 4<sup>th</sup> year physiotherapy students of Bangladesh Health Professions Institute (BHPI) and National Institute of Traumatology and Orthopedic Rehabilitation (NITOR).

### 3.4 Sample size

Sample size for this study was calculated by the following equation-

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

Here,

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

$$P=71\%=0.71$$

$$q=1-P$$

$$d=0.05$$

So, the researcher aim was to focus his study by 316 samples following the calculation above initially. As this research is in course curriculum, there are varieties of limitation from this population 80 samples were selected for the study.

### 3.5 Sampling procedure

Sample was taken by using convenience sampling method due to time limitation and as it is the one of the easiest, cheapest and quicker method of sample selection.

### 3.6 Inclusion criteria

- Both male and female was selected.
- Age group is from 18 years to 60 years were selected.
- Students who are active and regular with the physiotherapy program.

### **3.7 Exclusion criteria**

- Students who were not active are not active and irregular with the physiotherapy program.
- Students who are not 4<sup>th</sup> year students.
- Subject who had kidney problem and accident were excluded because these are responsible for LBP.

### **3.8 Method of data collection**

A self-administered questionnaire was completed by physiotherapy students of Bangladesh Health Professions Institute (BHPI) and National Institute of Traumatology and Orthopedic Rehabilitation (NITOR). The students were invited to become involved in the study during their classes. All classes of both courses were visited by the researchers during the data collection period. After accepting to participate in the study and signing the letter of consent they completed the questionnaire, which took approximately 20 min. For data collection, the Bengali type of questionnaire was delivered. After that a date was fixed to collect the questionnaire from the recipients.

### **3.9 Questionnaire**

With the structured questionnaire, the following variables were collected: gender, age, physical activity presence of LBP and its features. The International Physical Activity Questionnaire (IPAQ) was used to classify the level of physical activity. This instrument was developed by the World Health Organization and it is frequently used worldwide. Its advantage is that IPAQ evaluates physical activity in many aspects of the daily routine rather than only in one isolated aspect (i.e. leisure time). The IPAQ evaluates the daily activity in four dimensions: professional, domestic, during transportation and leisure. Therefore, we were able to classify the physical activity as low, moderate or high (Guedes et al., 2005). Pain intensity was assessed by the numerical rating scale (NPRS), ranging from zero (no pain) to ten (worst pain).

### **3.10 Materials and tools**

The materials and tools for this study were consent form, questionnaire, pencil, pen, pages, computer and SPSS (Statistical Package for the Social Sciences) software-20 version to analyze data.

### **3.11 Data Analysis**

Descriptive statistics was used to analyze the data. Data was analyzed with a software named Statistical Package for Social Science (SPSS) version 20. The variables were labeled in a list and the researcher established a computer based data definition record file that consist of a list of variables in order. The researcher put the name of variables in variable view of SPSS and defined the types, values, decimal, label alignment and measurement level of data. The next step was cleaning new data files to check the inputted data set to ensure that all data has been accurately transcribed from the questionnaire sheet to the SPSS data view. Then the raw data was ready for analysis in SPSS. Than data was analyses by descriptive statistics and the results were shows by pie and bar charts.

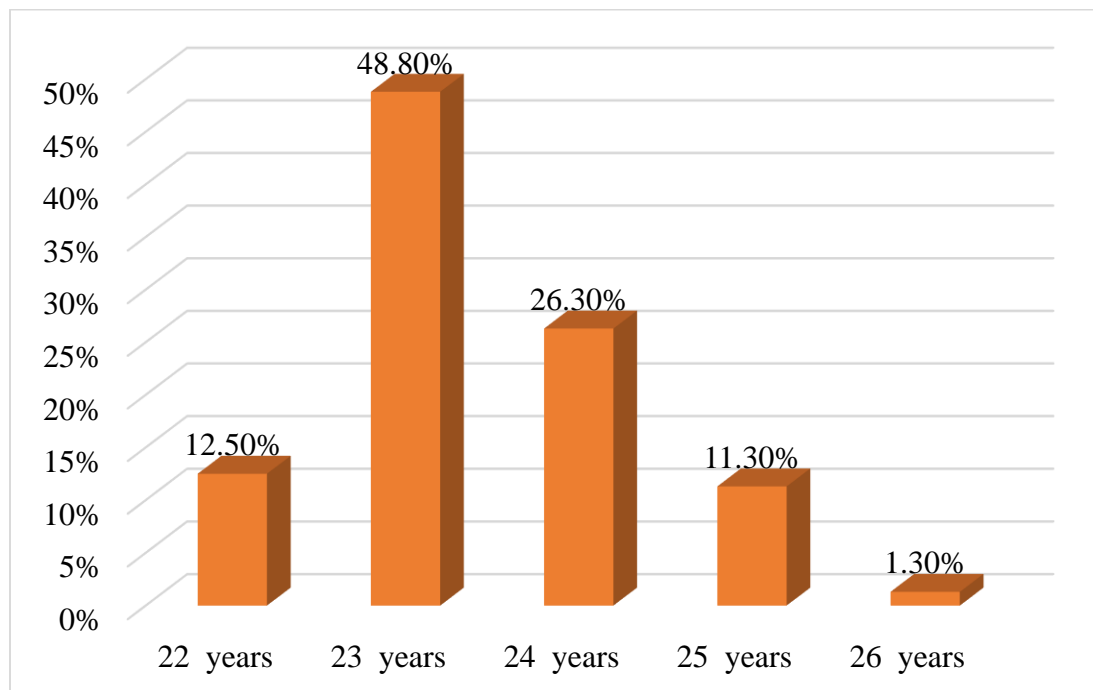
### **3.12 Ethical consideration**

Research proposal was submitted to the ethical committee Institutional Review Board (IRB) of BHPI and approval was taken from the board this study was conducted. The participant was ensuring that their comments would not affect their occupational role. When researcher had received an approval letter from the ethical committee then data collection was started. The Bangladesh Medical Research Council (BMRC) & World Health Organization (WHO) guideline were followed.

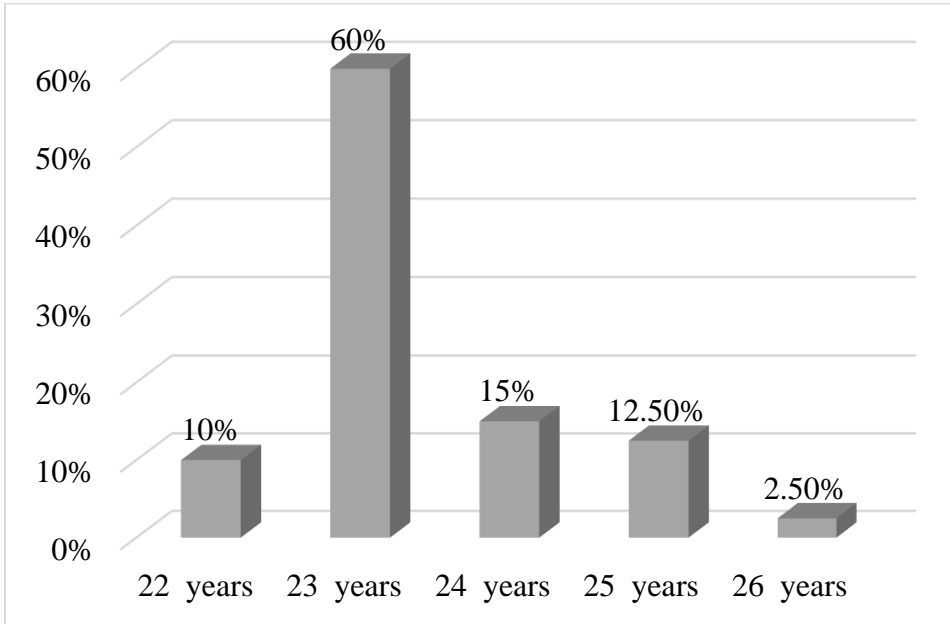
## 4.1 Socio-demographic information

### 4.1.1 Age of the participants

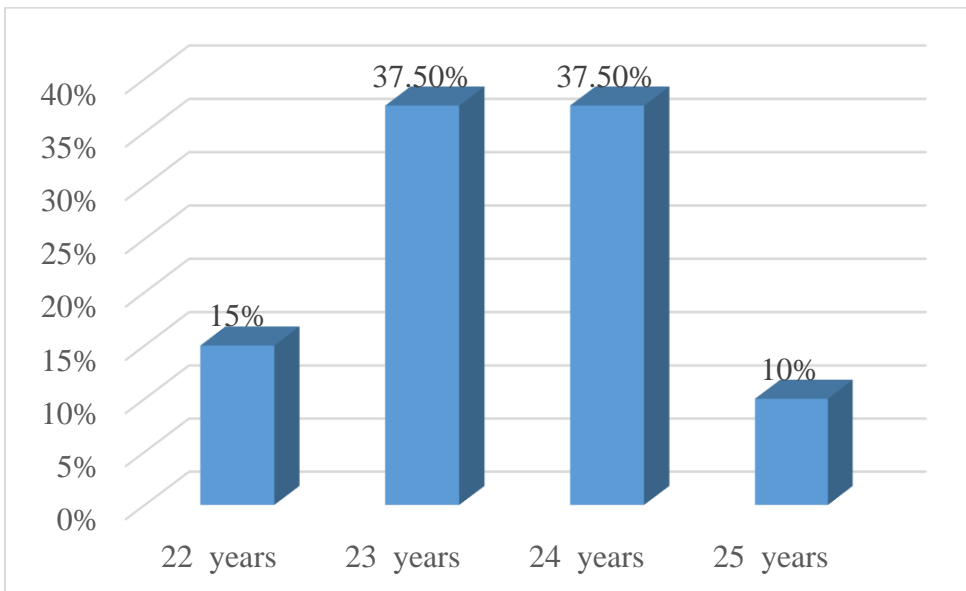
In this study 80 students were evaluated 50% (n=40) being BHPI physiotherapy students and 50% (n=40) from NITOR physiotherapy students. The age range was 23-26 years of all participants and their mean age was 23.40 years. Among them in BHPI physiotherapy program has 22 years 10% (n=4), 23 years 60% (n=24), 24 years 15% (n=6), 25 years 12.5% (n=5) and 26 years 2.5% (n=1) students and their mean age 23.38 years. In NITOR physiotherapy program 22 years 15% (n=6), 23 years 37.5% (n=15), 24 years 37.5% (n=15) and 25 years 10% (n=4) and their mean age 23.43 years. Table 1 demonstrates age of the sample and comparisons between the two Institute physiotherapy students. BHPI physiotherapy students are slightly younger than NITOR physiotherapy students. (Figure-1, 2 & 3)



**Figure-1:** Age of the all participants



**Figure-2:** Age of the BHPI students

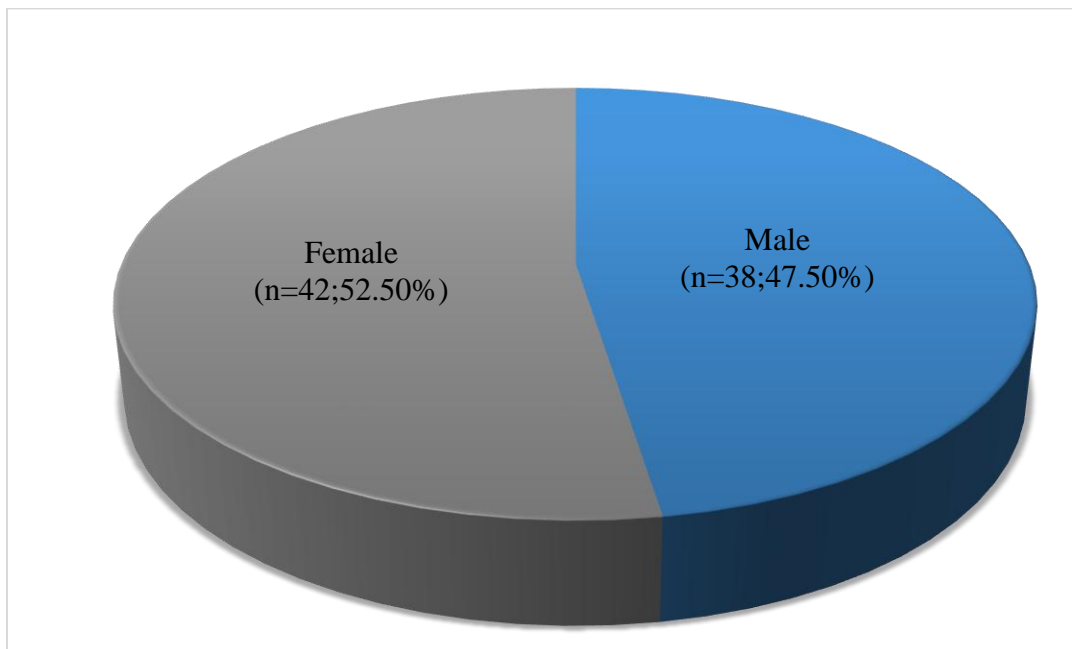


**Figure-3:** Age of NITOR students

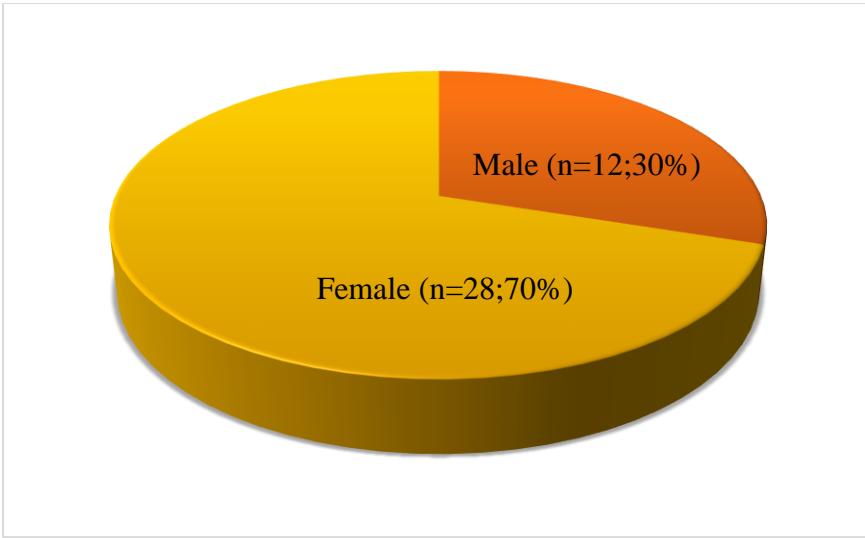


#### 4.1.2 Sex of the participants

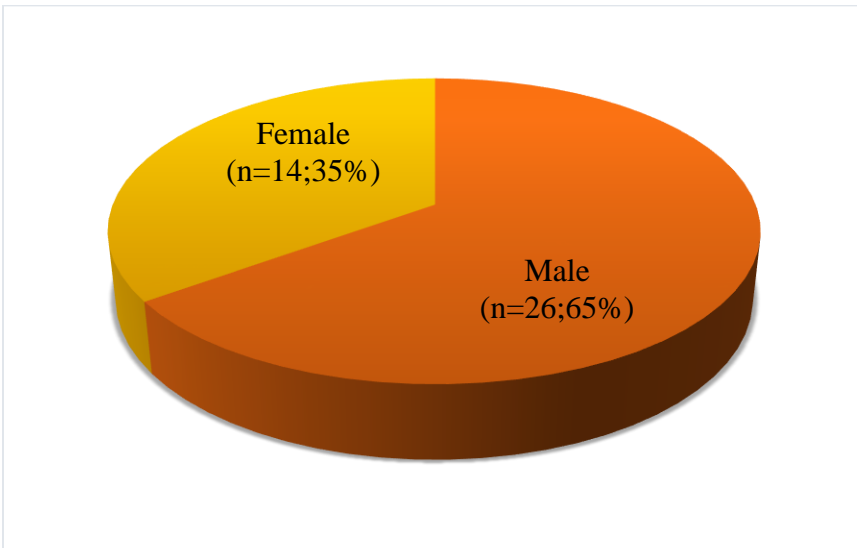
Among all participants female students were 52.5% (n=42) and male students were 47.5% (n=38). In BHPI physiotherapy students 70% (n=28) were female and 30% (n=12) were male so majority of BHPI physiotherapy students were female. On the other hands in NITOR physiotherapy students 35% (n=14) were female and 65% (n=26) were male so majority were male. It is also observed that the proportion of the female was higher in the BHPI physiotherapy students than in the NITOR physiotherapy students. The comparison has been shown in pie chart (Figure- 4, 5 & 6).



**Figure-4:** Sex of all participants



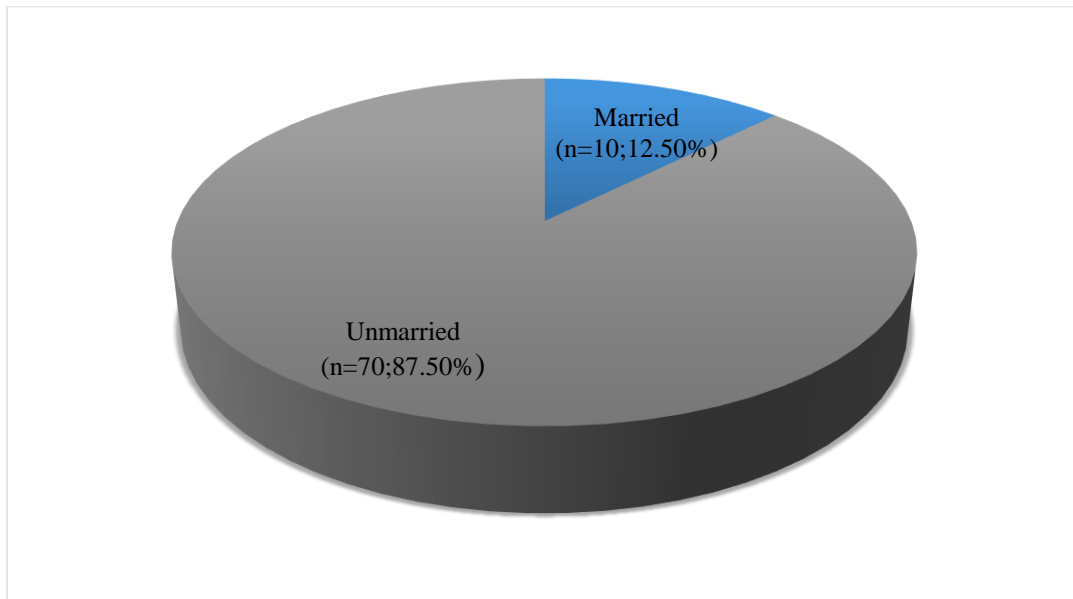
**Figure-5:** Sex of the BHPI students



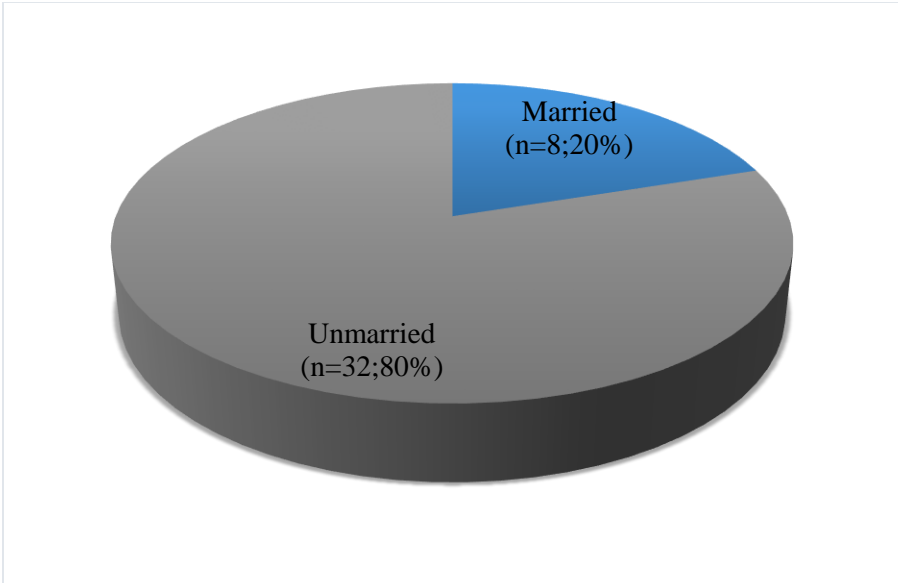
**Figure-6:** Sex of NITOR students

### 4.1.3 Marital status

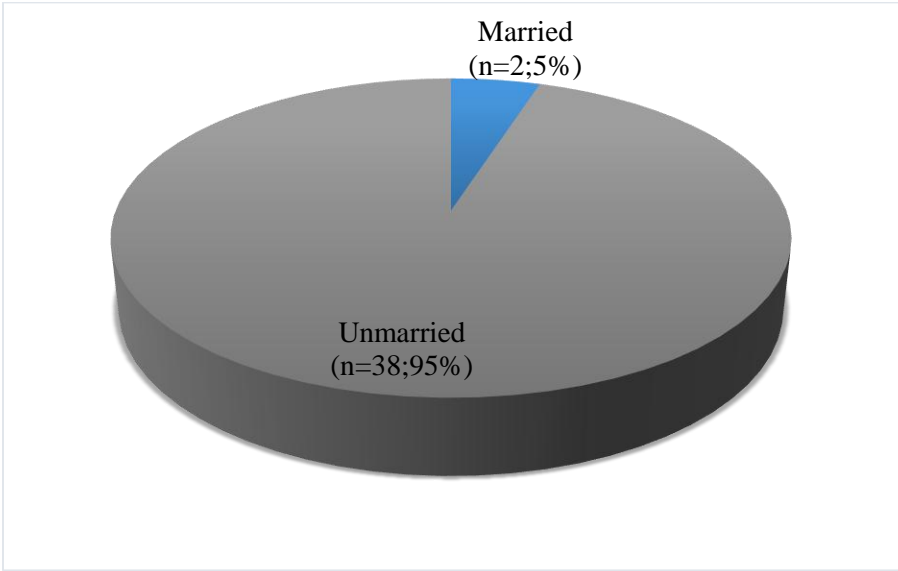
It has been found that in all students 12.5% (n=10) were married and 87.5% (n=70) were unmarried. Among them in BHPI physiotherapy students 20% (n=8) were married and 80% (n=32) were unmarried. On the other hands in NITOR physiotherapy students 5% (n=2) were married and 95% (n=38) were unmarried. So marital status was higher in BHPI physiotherapy students than NITOR physiotherapy students. After all majority students were unmarried among the all participants. Comparison has been shown in the pie charts (Figure- 7, 8 & 9).



**Figure-7:** Marital status of all participants



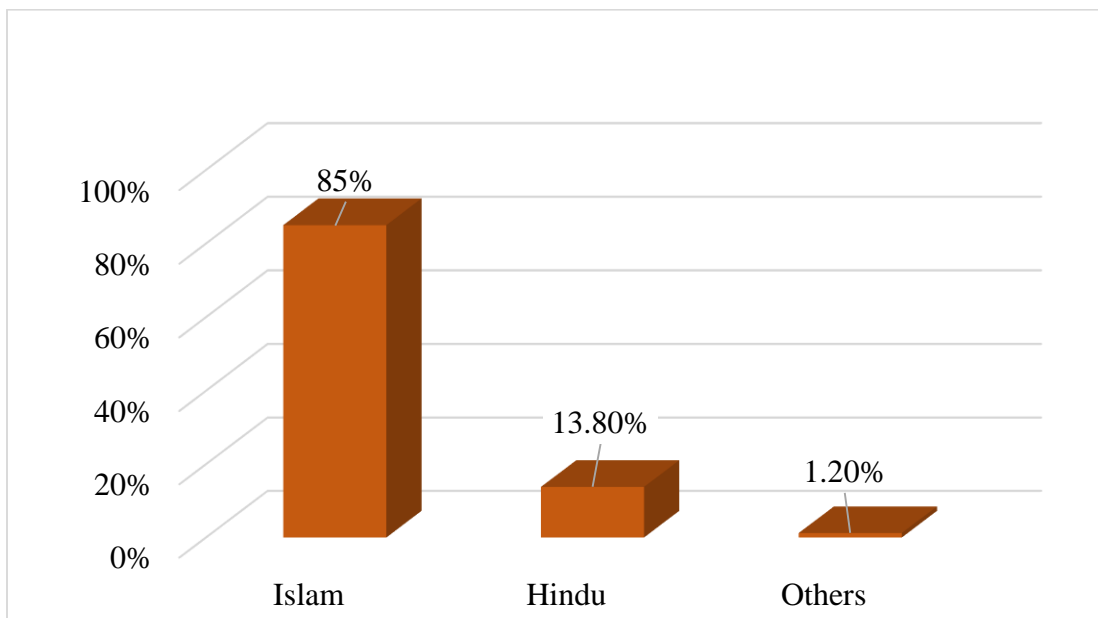
**Figure-8:** Marital status of BHPI students



**Figure-9:** Marital status of NITOR students

#### 4.1.4 Religion

This study showed that in all participants 85% (n=68) were Islam, 13% (n=11) were hindu and 1.2% (n=1) others. So majority were Islam. One of them in BHPI physiotherapy students 92.5% (n=37) were Islam and 7.5% (n=3) were Hindu. In NITOR physiotherapy students 77.5% (n=31) were Islam, 20% (n=8) were Hindu and 2.5% (n=1) were others religion. In (figure-10) bar charts showed the comparison between institute physiotherapy students showed in bar chart (Figure-10).



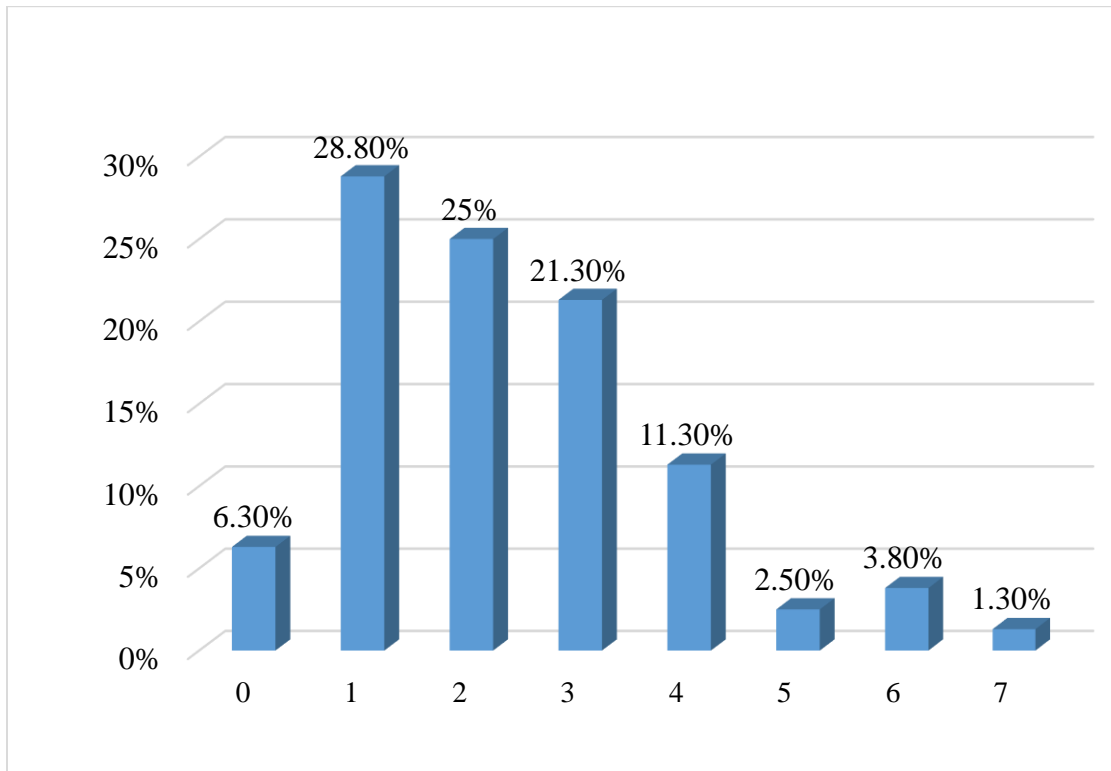
**Figure-10:** Religion of all participants

#### **4.1.5 Prevalence of pain on NPRS scale**

From the study we have found that among the all participants 93.75% (n=75) experienced pain at least 1 in the NPRS scale (0 to 10). In BHPI physiotherapy students 90% (n=36) and in NITOR physiotherapy students 97.5% (n=39) experienced pain at least 1 in NPRS scale. Highest level of pain in NPRS was 2.5% (n=1) and that is NITOR physiotherapy students.

### How would you rate your pain RIGHT NOW?

Among all participants in NPRS scale right now pain largest prevalence 28.80% (1 of 0 to 10) and 1.30% (7 of 0 10) in the following bar chart (Figure-11).



**Figure-11:** RIGHT NOW pain level in NPRS scale

**Table-1: RIGHT NOW level of pain among both sexes in NPRS scale**

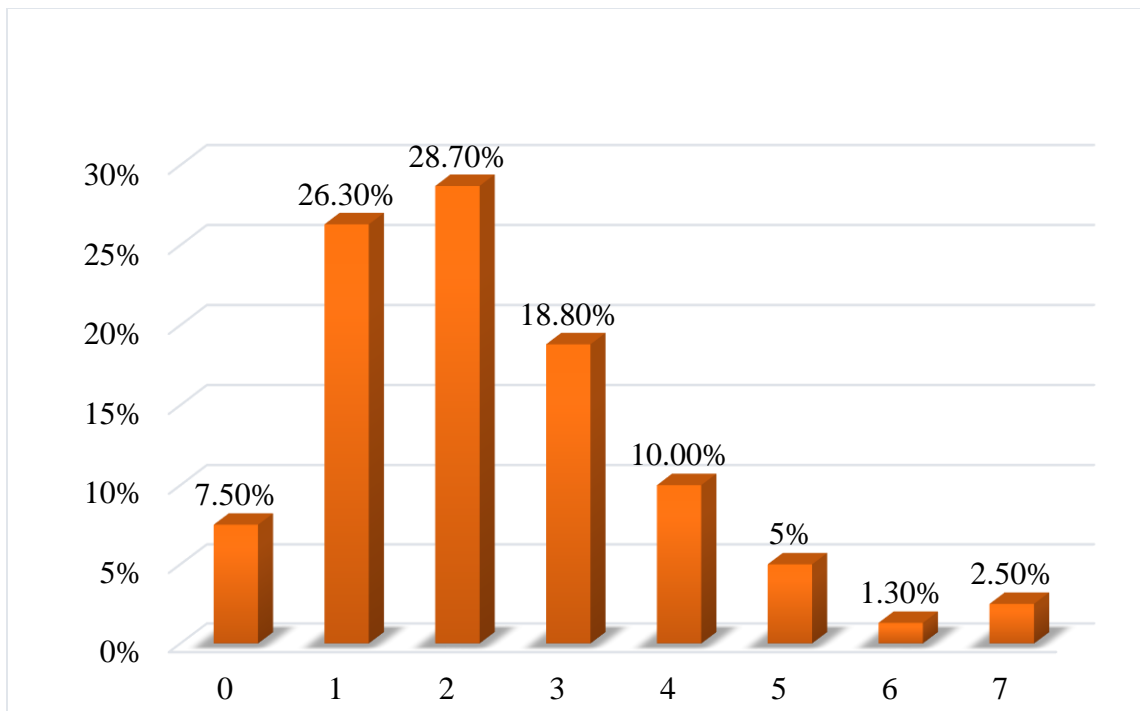
Participant's sex	RIGHT NOW pain level in NPRS scale								Total
	0	1	2	3	4	5	6	7	
Male	2	13	8	6	4	2	2	1	<b>38</b>
Female	3	10	12	11	5	0	1	0	<b>42</b>
<b>Total</b>	<b>5</b>	<b>23</b>	<b>20</b>	<b>17</b>	<b>9</b>	<b>2</b>	<b>3</b>	<b>1</b>	<b>80</b>

In this study I have found that in NPRS scale right now level of pain highest 23 students suffer from low back pain instantly. Among them male (13) students are more than female students (10). But in total score more female physiotherapy students (42) are affected than male physiotherapy students (38) showed in table-1.



### How would you rate your USUAL level of pain?

In USUAL level of pain was highest prevalence 28.70% (2 of 0 to 10) in the following bar chart and 2.50% (7 of 0-10). Among them in BHPI physiotherapy students 25% (3 of 0-10) and in NITOR physiotherapy students 35% (2 of 0-10) were the largest prevalence showed in bar chart (Figure-12).



**Figure-12:** USUAL level of pain in NPRS scale

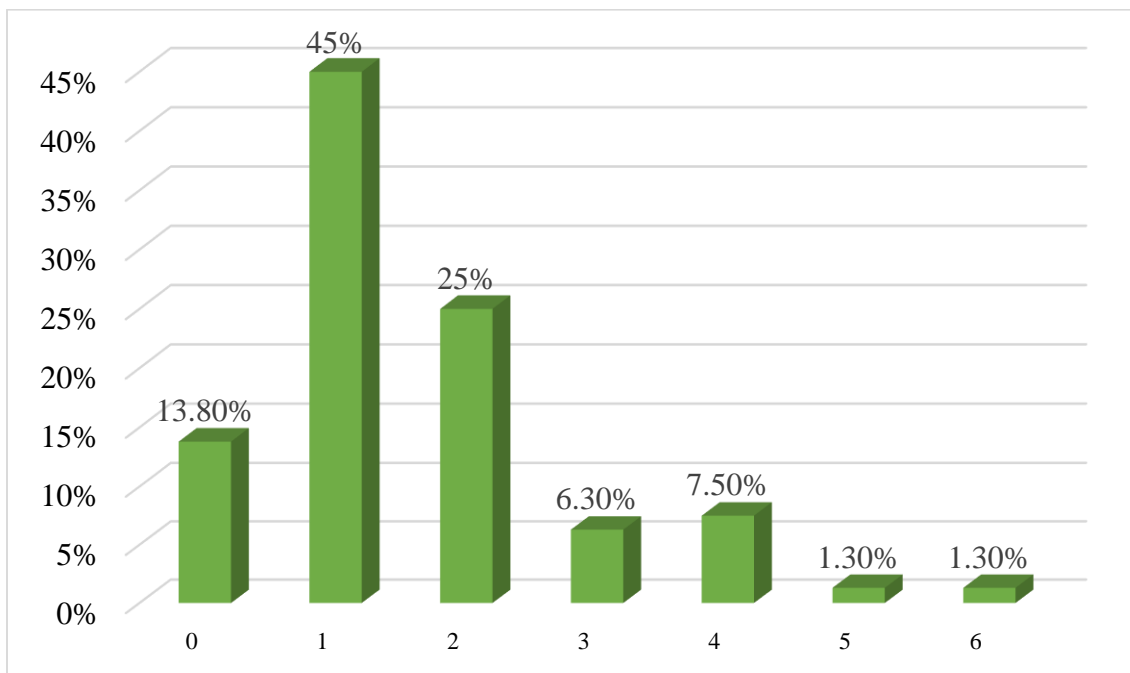
**Table-2: USUAL level of pain among both sexes in NPRS scale**

Participant's sex	USUAL level of pain in NPRS scale							<b>Total</b>
	0	1	2	3	4	5	7	
Male	3	12	10	6	2	4	1	<b>38</b>
Female	3	9	13	9	6	1	1	<b>42</b>
Total	6	21	23	15	8	<b>5</b>	<b>2</b>	<b>80</b>

From the table-2 I have found that in NPRS scale usual level of pain highest 23 students suffer from low back pain. Among them male (10) students are less than female students (13). But in total score female physiotherapy students (42) are more affected than male physiotherapy students (38).

**How would you rate your BEST level of pain?**

In BEST level of pain was highest prevalence 45% (1 of 0 to 10) in the following bar chart and 1.30% (6 of 0-10). Among them in BHPI physiotherapy students 37.5% (1 of 0-10) and in NITOR physiotherapy students 52.5% (1 of 0-10) were the largest prevalence.(Figure-13)



**Figure-13: BEST level of pain in NPRS scale**

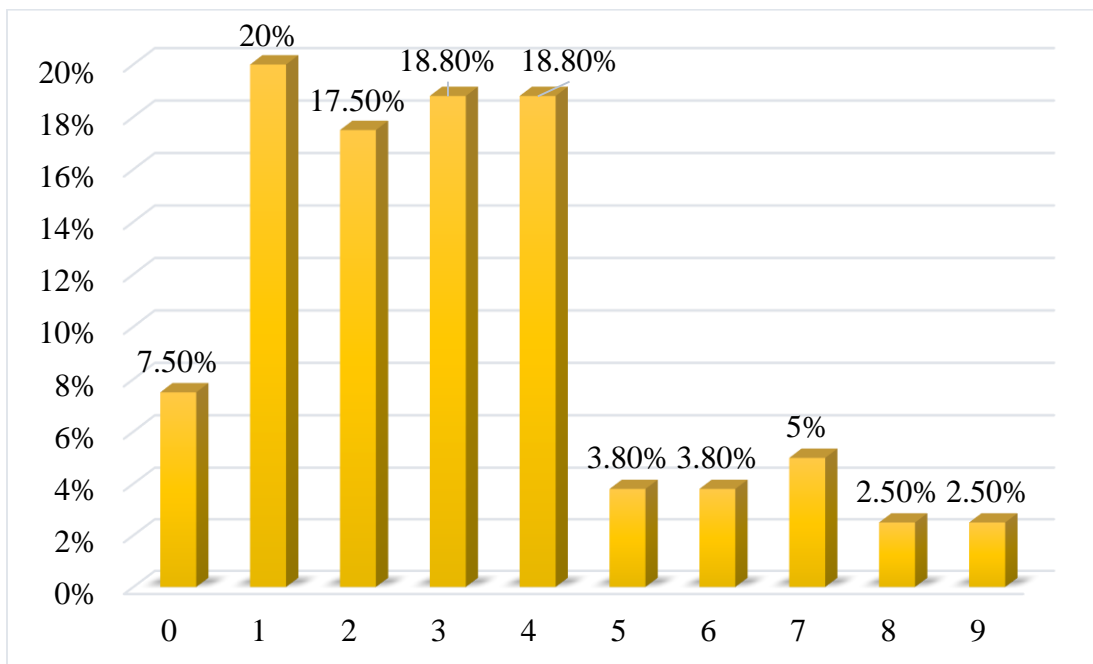
**Table-3: BEST level of pain among both sexes in NPRS scale**

Participant's sex	BEST level of pain in NPRS scale						Total
	0	1	2	3	4	6	
Male	5	18	6	4	3	2	<b>38</b>
Female	6	18	14	1	3	0	<b>42</b>
<b>Total</b>	<b>11</b>	<b>36</b>	<b>20</b>	<b>5</b>	<b>6</b>	<b>2</b>	<b>80</b>

Above table-3 showed that in NPRS scale best level of pain highest 36 physiotherapy students suffer from low back pain. In total score female physiotherapy students (42) are more affected than male physiotherapy students (38).

### How would you rate your WORST level of pain?

In BEST level of pain was highest prevalence 20% (1 of 0 to 10) in the following bar chart and 2.50% (9 of 0-10). Among them in BHPI physiotherapy students 22.50% (3 of 0-10) and in NITOR physiotherapy students 37.50% (1 of 0-10) were the largest prevalence. (Figure-14)



**Figure-14:** WORST level of pain in NPRS scale

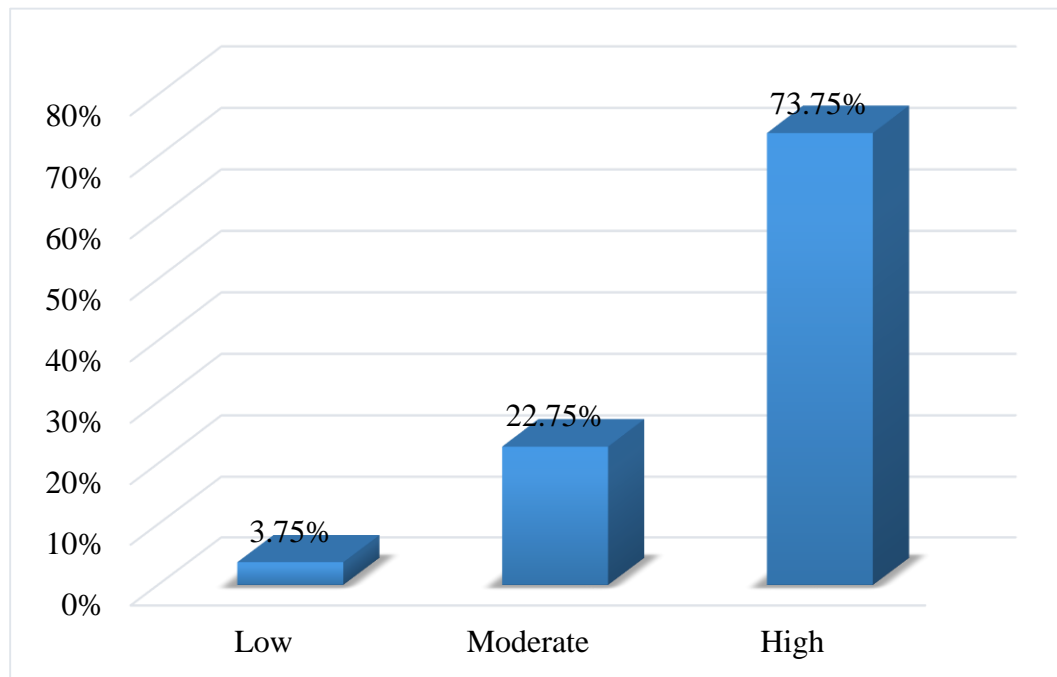
**Table-4: WORST level of pain among both sexes in NPRS**

Participant's sex	WORST level of pain in NPRS scale										Total
	0	1	2	3	4	5	6	7	8	9	
Male	3	12	6	3	6	1	1	2	2	2	<b>38</b>
Female	3	4	8	12	9	2	2	2	0	0	<b>42</b>
<b>Total</b>	<b>6</b>	<b>16</b>	<b>14</b>	<b>15</b>	<b>15</b>	<b>3</b>	<b>3</b>	<b>4</b>	<b>2</b>	<b>2</b>	<b>80</b>

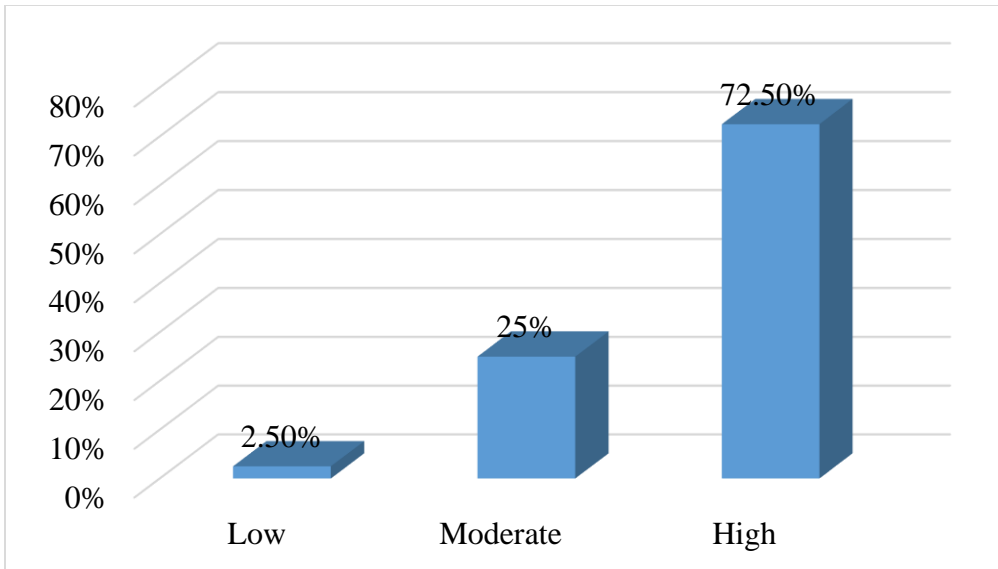
From the table-4 I have found that in NPRS scale worst level of pain highest 15 students suffer from low back pain. Among them male (6) students are less than female students (9). In total score female physiotherapy students (42) are more affected than male physiotherapy students (38).

#### 4.1.6 Physical activity

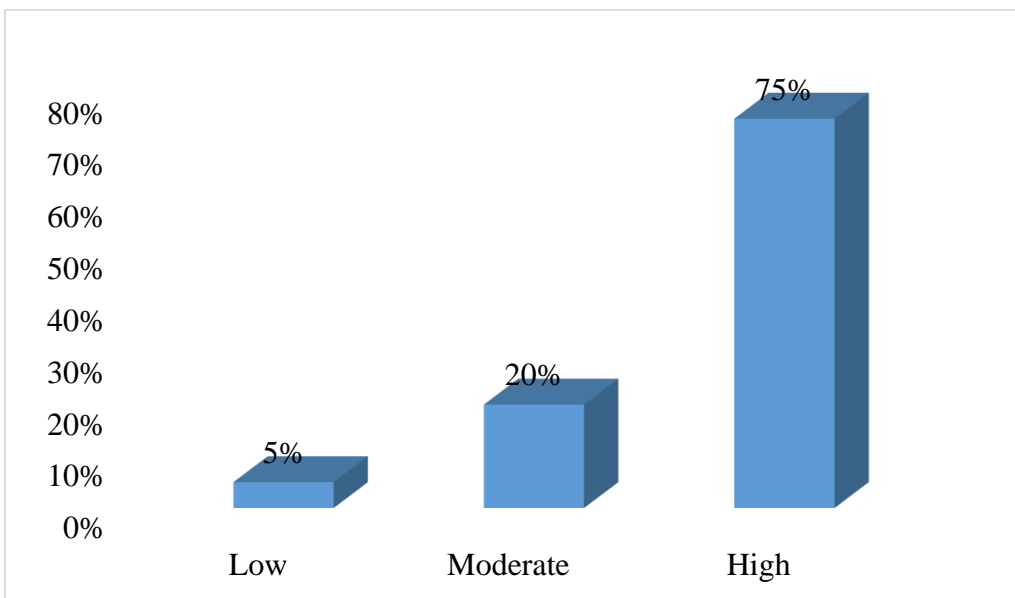
Physical activity level of all participants 73.75% (n=59) were high, 22.50% (n=18) moderate and 3.75% (n=3) low. Among them in BHPI physiotherapy students 72.50% (n=29) did high physical activity, 25% (n=10) moderate and 2.5% (n=1) low physical activity. In NITOR physiotherapy students 75% (n=8) did high, 20% (n=8) moderate and 5% (n=2) low level of physical activity. So high physical activity in NITOR physiotherapy students was slightly higher than BHPI physiotherapy students. (Figure-15, 16 & 17)



**Figure-15:** Level of physical activity of all participants



**Figure-16:** Physical activity level of BHPI students



**Figure-17:** Physical activity level of NITOR students



This cross-sectional study aimed to prevalence of LBP in the physiotherapy students comparing between two institutes BHPI and NITOR. Low back pain prevalence among the all participants 93.75%. The study showed that the prevalence of LBP was higher in NITOR physiotherapy students (97.5%) compared to BHPI physiotherapy students (90%). We observed that undergraduate physiotherapy study was independently associated with having LBP. To the best of our knowledge, this was the first study that clearly demonstrated the association between undergraduate physiotherapy study and LBP.

The age range was 23-26years of all participants and their mean age was 23.40 years. Among them in BHPI physiotherapy program has 23 years 10%, 23years 60%, 24years 15%, 25years 12.5% and 26years 2.5% students and their mean age 23.38years. In NITOR physiotherapy program 22years 15%, 23years 37.5%, 24years 37.5% and 25years 10% and their mean age 23.43years. BHPI physiotherapy students are slightly younger than NITOR physiotherapy students. Among all participants female students were 52.5% (42) and male students were 47.5% (38). In BHPI physiotherapy students 70% (28) were female and 30% (12) were male so majority of BHPI physiotherapy students were female. On the other hands in NITOR physiotherapy students 35% (14) were female and 65% (26) were male so majority were male. It is also observed that the proportion of the female was higher in the BHPI physiotherapy students than in the NITOR physiotherapy students. It has been found that in all students 12.5% (10) were married and 87.5% (70) were unmarried. Among them in BHPI physiotherapy students 20% (8) were married and 80% (32) were unmarried. On the other hands in NITOR physiotherapy students 5% (2) were married and 95% (38) were unmarried. So marital status was higher in BHPI physiotherapy students than NITOR physiotherapy students. This study showed that in all participants 85% (68) were Islam, 13% (11) were hindu and 1.2% (1) others. So majority were Islam. One of them in BHPI physiotherapy students 92.5% (37) were Islam and 7.5% (3) were Hindu. In NITOR physiotherapy students 77.5% (31) were Islam, 20% (8) were Hindu and 2.5% (1) were others religion. Physical activity level of all participants 73.75% were high, 22.50% moderate and 3.75% low. Among them in BHPI physiotherapy students 72.50% did high

physical activity, 25% moderate and 2.5% low physical activity. In NITOR physiotherapy students 75% did high, 20% moderate and 5% low level of physical activity. So high physical activity in NITOR physiotherapy students was slightly higher than BHPI physiotherapy students.

There are many reports in the literature concerning the burden of work-related musculoskeletal injuries in physiotherapists (Campo et al., 2008). West & Gardner (2001) reported that 16% of physiotherapists first experienced their injury as students, whereas 56% reported their worst injury to have occurred within the first 5 years of working as a physiotherapist. In this study, only 6.25% of physiotherapy students had never experienced LBP. Nyland & Grimmer (2003) carried out a cross-sectional study to evaluate the prevalence of LBP among physiotherapy students. They found a 1 week LBP prevalence of 27%, 1 month of 44%, 1 year of 63% and lifetime of 69%. Also, they concluded that, compared to the first year students, students at all other levels of study incurred a significantly elevated risk for LBP. Finally, the authors compared their results with other prevalence studies and discussed the possibility of the undergraduate physiotherapy study being a risk factor for LBP. Our study clearly demonstrated this association, observing that the undergraduate physiotherapy program involves greater chance of experiencing LBP. This study showed the increased likelihood of LBP among the advanced students, who are more exposed to practical activities.

It was an undergraduate study so there may have had some limitations and barriers during on conduction of this study. The study was conducted at BHPI and NITOR. One important limitation of my study is that, as it was a cross-sectional study, we were not able to observe accurately if there is an increasing incidence of LBP during the program. It was observed that there is an increased risk for advanced students, who most often are exposed to practical activities. Also, we did not intend to identify which activities in the course were associated with the development of LBP. Finally, further studies could demonstrate if preventive activities and educational interventions can decrease the risk for developing LBP among these student.

## **Conclusion**

Low back pain is a very frequently occurring phenomenon. It has a high prevalence among physiotherapy students. Individual risk factors were noted in this survey. Physiotherapy students are vulnerable to back pain problem during the course of their work routine. For the fulfillment of this study the investigator used a quantitative research model. Conveniently 80 participants among the physiotherapy students were collected from BHPI and NITOR physiotherapy students. The investigator used a questionnaire. Each Participant was given a questionnaire. And from the documents of the participants the researcher forms a data base for the total sample included in the study. The physiotherapy students of NITOR are 7.5% more likely to have LBP than physiotherapy students of BHPI. The age of the participants is associated with the presence of LBP because NITOR physiotherapy students is older than BHPI physiotherapy students. Majority of NITOR physiotherapy students are male (65%). Vigorous physical activity of NITOR physiotherapy students is higher than BHPI physiotherapy students. These findings suggest that preventive activities should be performed during the undergraduate physiotherapy program in order to alleviate or minimize the impact of LBP in these students.

## **Recommendation**

Low back pain among the physiotherapy students is a common problem. This will hamper their daily life and their study. There are many research in various aspects of low back pain. But there a few research about low back pain among the physiotherapy students. This study can be conducted with a large sample group for survey. If all the Physiotherapy students of Bangladesh were sample of the study the result will be more effective. Questionnaire should be developed according to department arrangement. A random sampling would be chosen in future in order to enabling the power of generalization of the results. Wider time would be taken in the future for conducting the research.

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## APPENDIX

### IRB letter

**বাংলাদেশ হেল্থ প্রফেশন্স ইনস্টিটিউট (বিএইচপিআই)**  
**Bangladesh Health Professions Institute (BHPI)**  
(The Academic Institute of CRP)

Ref. CRP-BHPI/IRB/04/17/58 Date: 5/24/2017

To  
Md. Sabuj Sheikh  
B.Sc in Physiotherapy,  
Department of Physiotherapy  
Session: 2011-2012, DU Reg. No.: 1730  
BHPI, CRP, Savar, Dhaka-1343, Bangladesh

**Subject: Approval of the thesis proposal – “Prevalence of low back pain among the physiotherapy students.” by ethics committee.**

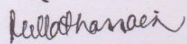
Dear Md. Sabuj Sheikh,

The Institutional Review Board (IRB) of BHPI has reviewed and discussed your application on before February 23, 2016 to conduct the above mentioned thesis, with yourself, as the Principal investigator. The Following documents have been reviewed and approved:

Sr. No	Name of the Documents
1	Thesis Proposal
2	Questionnaire (English and Bengali version)
3	Information Sheet & Consent form

Since the study involves answering “Numerical Pain Rating scale (NPRS) and The International Physical Activity Questionnaire (IPAQ)” that takes 20 to 25 minutes and have no likelihood of any harm to the participants, the members of the ethics committee has approved the study to be conducted in the presented form at the meeting held at 08:30 AM on February 25, 2016 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

সিআরপি-চাপাইন, সাভার, ঢাকা-১৩৪৩, বাংলাদেশ, ফোন : ৭৭৪৫৪৬৪-৫, ৭৭৪১৪০৪ ফ্যাক্স : ৭৭৪৫০৬৯  
CRP-Chapain, Savar, Dhaka-1343, Tel : 7745464-5, 7741404, Fax : 7745069, E-mail : contact@crp-bangladesh.org, www.crp-bangladesh.org

Mr. Nazrul  
Course - 6 - Orthodontics



বাংলাদেশ হেল্থ প্রফেশন্স ইনষ্টিটিউট (বিএইচপিআই)  
BANGLADESH HEALTH PROFESSIONS INSTITUTE (BHPI)  
(The Academic Institute of CRP)

CRP-Chapain, Savar, Dhaka, Tel: 7745464-5, 7741404, Fax: 7745069  
BHPI-Mirpur Campus, Plot-A/5, Block-A, Section-14, Mirpur, Dhaka-1206. Tel: 8020178, 8053662-3, Fax: 8053661

প্রতি  
পরিচালক  
নিটোর, ঢাকা।

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

তারিখ: ৩১.০৮.২০১৬  
ক্রমিক নং ৬১৪  
অং ৫/২/১৬  
পরিচালক  
যুগ্ম-পরিচালক  
উপ-পরিচালক  
প্রশাসনিক কর্মকর্তা  
প্রধা: সহকারী

জনাব,

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

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

বিএইচপিআই'র ৪র্থ বর্ষ বিএসসি ইন ফিজিওথেরাপি কোর্সের ছাত্র মোঃ সবুজ শেখ তার রিসার্চ সংক্রান্ত কাজের তথ্য সংগ্রহের জন্য আগামী ১৮.০৯.২০১৬ থেকে ২০.১০.২০১৬ তারিখ পর্যন্ত আপনার প্রতিষ্ঠানে সফর করতে আগ্রহী। তার রিসার্চ শিরোনাম

“ Low back pain prevalence among the physiotherapy students.”

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

ধন্যবাদান্তে

মোঃ ওবায়দুল হক  
অধ্যক্ষ-ভারপ্রাপ্ত  
বিএইচপিআই।





Permission Letter

3<sup>rd</sup> September 2016  
Head of the Department  
Department of the Physiotherapy  
Bangladesh Health Professions Institute (BHPI)  
Chapain, Savar, Dhaka, 1343

**Subject:** Permission for data collection.

Dear Sir,

I respectfully to state that I am a 4<sup>th</sup> year B.Sc in Physiotherapy student at Bangladesh Health Professions Institute (BHPI). In 4<sup>th</sup> year we have to do a research project and I have chosen a title that is "**Prevalence of Low Back Pain among the Physiotherapy Students**" and my supervisor is Md. Shofiqul Islam, Assistant Professor, Physiotherapy Department, BHPI. I would like to collect data from physiotherapy students of Bangladesh Health Professions Institute (BHPI) and National Institute of Traumatology and Orthopaedic Rehabilitation (NITOR).

I, therefore, pray and hope that you would be kind enough to give me the permission to make this research project successful.

Yours faithfully

*Md. Sabuj*

Md. Sabuj Sheikh

4<sup>th</sup> year B.Sc in physiotherapy, BHPI.

Class roll: 26.

Session: 2011-2012

*Seen  
Supri  
03.09.16*

*Approved  
03.09.16*  
Mohammad Anwar Hossain  
Associate Professor &  
Head of Physiotherapy Dept.  
CRP, Chapain, Savar, Dhaka-1343

*Forwarded  
03/09/16*  
Md. Obaidul Haque  
Associate Professor & Head of the Department  
Department of Physiotherapy  
Bangladesh Health Professions Institute (BHPI)  
CRP, Chapain, Savar, Dhaka-1343

## Consent Form

Assalamualaikum\ Namashker,

I am Md. Sabuj Sheikh, Final Year of B.Sc. in Physiotherapy student of Bangladesh Health Professions Institute (BHPI) under the Faculty of Medicine, University of Dhaka. To obtain my Graduation degree, I have to conduct a research project and it is a part of my study. You are requested to participate in the study after a brief of the following.

My research title is “**Prevalence of Low Back Pain among the physiotherapy students**”. Through this study I will find the basic and advance activities outcomes of lower limb prosthetic patient after gait training by physiotherapist. If I can complete this study successfully, patients may get benefits whom are lower limb amputee patient. To fulfil my research project, I need to collect data. So, you are respected to participate in the study. I want to meet you a couple of sessions, after your gait training.

I would like to inform you that this is a purely academic study and will not be used for any other purposes. I assure that all data will be kept confidential. Your participation will be voluntary. You may have the rights to withdraw consent and discontinue participation at any time of the study. You also have the rights to answer a particular question that you don't like.

If you have any query about the study or right as a participant, you may contact with me or Md. Shofiqul Islam, Assistant Professor, Physiotherapy Department, BHPI, CPR, 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 participant and date .....

Signature of the researcher and Date.....

Signature of the witness and Date.....

## সম্মতিপত্র ( বাংলায় )

আসালামু আলাইকুম / নমস্কার, আমার নাম মোঃ সবুজ শেখ, আমি এই গবেষণাটি বাংলাদেশ হেল্‌থ প্রফেশনাল ইন্সটিটিউটে ( বি এইচ পি আই), ঢাকা বিশ্ববিদ্যালয়ের চিকিৎসা অনুষদের অধীনে করছি যা আমার ফিজিওথেরাপী স্নাতক কোর্সের আংশিক অধিভুক্ত যার শিরোনাম হল “ ফিজিওথেরাপী ছাত্র-ছাত্রীদের কোমরে ব্যাথার প্রাদুর্ভাব ”

আমি এই গবেষণাটির মাধ্যমভা ফিজিওথেরাপী ছাত্র-ছাত্রীদের কোমরে ব্যাথার প্রাদুর্ভাব দেখতে চাচ্ছি। আমি এক্ষেত্রে কিছু ব্যক্তিগত এবং কোমর ব্যাথা সম্পর্কে কিছু আনুষঙ্গিক তথ্য জানতে চাচ্ছি। ফরমে উল্লেখিত কিছু প্রশ্নের উত্তর দেয়ার জন্য আন্তরিকভাবে অনুরোধ জানাচ্ছি যা আনুমানিক ২০ – ৩০ মিনিট সময় নিবে।

আমি আপনাকে অবগত করছি যে, এটা কেবলমাত্র আমার অধ্যয়নের সাথে সম্পর্কযুক্ত এবং অন্য কোন উদ্দেশ্যে ব্যবহার হবে না। আমি আপনাকে আরো নিশ্চয়তা প্রদান করছি যে সকল তথ্য প্রদান করবেন তার গোপনীয়তা বজায় থাকবে এবং এই তথ্যের উৎস অপ্রকাশিত থাকবে। এমনকি গবেষণাটির শেষে এই সকল তথ্য নষ্ট করে ফেলা হবে।

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

যদি আপনার এই গবেষণা সম্পর্কে কিছু প্রশ্ন করার থাকে অথবা একজন অংশগ্রহনকারী হিসেবে এটা আপনার অধিকার, তাহলে আপনি গবেষক মোঃ সবুজ শেখ অথবা মোঃ শফিকুল ইসলাম, সহকারী অধ্যাপকের সাথে যোগাযোগ করতে পারেন। ফিজিওথেরাপী বিভাগ, বি এইচ পি আই, সাভার, ঢাকা – ১৩৪৩ এই ঠিকানায়।

এই সাক্ষাৎকার শুরু করার আগে আপনার কি কোন প্রশ্ন আছে ?

আমি আপনার অনুমতি নিয়ে এই সাক্ষাৎকার শুরু করতে যাচ্ছি ?

হ্যাঁ  না

সাক্ষাৎকার প্রদানকারী স্বাক্ষর..... তারিখ .....

সাক্ষীর স্বাক্ষরও তারিখ ..... তারিখ.....

সাক্ষাৎকারগ্রহনকারীর স্বাক্ষর..... তারিখ.....

## Questionnaire (English)

### Personal Details

1. Name: .....
2. Phone no: .....
3. Age: .....
4. Sex:      Male            Female
5. Marital status:    Married            Unmarried
6. Religion: .....

### Pain Numeric Rating Scale

1. On a scale of 0 to 10, with 0 being no pain at all and 10 being the worst pain imaginable, how would you rate your pain RIGHT NOW?

0      1      2      3      4      5      6      7      8      9      10

No Pain

Worst Pain Imaginable

2. On the same scale, how would you rate your USUAL level of pain during the last week?

0      1      2      3      4      5      6      7      8      9      10

No Pain

Worst Pain

Imaginable

3. On the same scale, how would you rate your BEST level of pain during the last week?

0      1      2      3      4      5      6      7      8      9      10

No Pain

Worst Pain

Imaginable

4. On the same scale, how would you rate your WORST level of pain during the last week?

0      1      2      3      4      5      6      7      8      9      10

No Pain

Worst Pain

Imaginable



# INTERNATIONAL PHYSICAL ACTIVITY QUESTIONNAIRE

## PART-1

### JOB-RELATED PHYSICAL ACTIVITY

The first section is about your work. This includes paid jobs, farming, volunteer work, course work, and any other unpaid work that you did outside your home. Do not include unpaid work you might do around your home, like housework, yard work, general maintenance, and caring for your family. These are asked in Part 3.

1. Do you currently have a job or do any unpaid work outside your home?

Yes

No **➡ Skip to PART 2**

The next questions are about all the physical activity you did in the last 7 days as part of your paid or unpaid work. This does not include traveling to and from work.

2. During the last 7 days, on how many days did you do vigorous physical activities like heavy lifting, digging, heavy construction, or climbing upstairs as part of your work?

Think about only those physical activities that you did for at least 10 minutes at a time.

\_\_\_\_\_ days per week

No vigorous job-related physical activity **➡ Skip to question 4**

3. How much time did you usually spend on one of those days doing vigorous physical activities as part of your work?

\_\_\_\_\_ hours per day

\_\_\_\_\_ minutes per day

4. Again, think about only those physical activities that you did for at least 10 minutes at a time. During the last 7 days, on how many days did you do moderate physical activities like carrying light loads as part of your work? Please do not include walking.

\_\_\_\_\_ days per week

No moderate job-related physical activity **➡ Skip to question 6**

5. How much time did you usually spend on one of those days doing moderate physical activities as part of your work?

\_\_\_\_\_ hours per day

\_\_\_\_\_minutes per day

6. During the last 7 days, on how many days did you walk for at least 10 minutes at a time as part of your work? Please do not count any walking you did to travel to or from work.

\_\_\_\_\_days per week

No job-related walking      **➡ Skip to PART 2**

7. How much time did you usually spend on one of those days walking as part of your work?

\_\_\_\_\_hours per day

\_\_\_\_\_minutes per day

### PART-2

#### TRANSPORTATION PHYSICAL ACTIVITY

These questions are about how you traveled from place to place, including to places like work, stores, movies, and so on.

8. During the last 7 days, on how many days did you travel in a motor vehicle like a train, bus, car, or tram?

\_\_\_\_\_days per week

No traveling in a motor vehicle      **➡ Skip to question 10**

9. How much time did you usually spend on one of those days traveling in a train, bus, car, tram, or other kind of motor vehicle?

\_\_\_\_\_hours per day

\_\_\_\_\_minutes per day

Now think only about the bicycling and walking you might have done to travel to and from work, to do errands, or to go from place to place.

10. During the last 7 days, on how many days did you bicycle for at least 10 minutes at a time to go from place to place?

\_\_\_\_\_days per week

No bicycling from place to place      **➡ Skip to question 12**

11. How much time did you usually spend on one of those days to bicycle from place to place?

\_\_\_\_\_hours per day

\_\_\_\_\_minutes per day

12. During the last 7 days, on how many days did you walk for at least 10 minutes at a time to go from place to place?

\_\_\_\_\_ days per week

No walking from place to place ➡ **Skip to PART 3**

13. How much time did you usually spend on one of those days walking from place to place?

\_\_\_\_\_ hours per day

\_\_\_\_\_ minutes per day

### PART-3

#### HOUSEWORK, HOUSE MAINTENANCE, AND CARING FOR FAMILY

This section is about some of the physical activities you might have done in the last 7 days in and around your home, like housework, gardening, yard work, general maintenance work, and caring for your family.

14. Think about only those physical activities that you did for at least 10 minutes at a time. During the last 7 days, on how many days did you do vigorous physical activities like heavy lifting, chopping wood, shoveling snow, or digging in the garden or yard?

\_\_\_\_\_ days per week

No vigorous activity in garden or yard ➡ **Skip to question 16**

15. How much time did you usually spend on one of those days doing vigorous physical activities in the garden or yard?

\_\_\_\_\_ hours per day

\_\_\_\_\_ minutes per day

16. Again, think about only those physical activities that you did for at least 10 minutes at a time. During the last 7 days, on how many days did you do moderate activities like carrying light loads, sweeping, washing windows, and raking in the garden or yard?

\_\_\_\_\_ days per week

No moderate activity in garden or yard ➡ **Skip to question 18**

17. How much time did you usually spend on one of those days doing moderate physical activities in the garden or yard?

\_\_\_\_\_ hours per day

\_\_\_\_\_minutes per day

18. Once again, think about only those physical activities that you did for at least 10 minutes at a time. During the last 7 days, on how many days did you do moderate activities like carrying light loads, washing windows, scrubbing floors and sweeping inside your home?

\_\_\_\_\_days per week

No moderate activity inside home ➡ **Skip to PART 4**

19. How much time did you usually spend on one of those days doing moderate physical activities inside your home?

\_\_\_\_\_hours per day

\_\_\_\_\_minutes per day

#### PART-4

#### RECREATION, SPORT, AND LEISURE-TIME PHYSICAL ACTIVITY

This section is about all the physical activities that you did in the last 7 days solely for recreation, sport, exercise or leisure. Please do not include any activities you have already mentioned.

20. Not counting any walking you have already mentioned, during the last 7 days, on how many days did you walk for at least 10 minutes at a time in your leisure time?

\_\_\_\_\_days per week

No walking in leisure time ➡ **Skip to question 22**

21. How much time did you usually spend on one of those days walking in your leisure time?

\_\_\_\_\_hours per day

\_\_\_\_\_minutes per day

22. Think about only those physical activities that you did for at least 10 minutes at a time. During the last 7 days, on how many days did you do vigorous physical activities like aerobics, running, fast bicycling, or fast swimming in your leisure time?

\_\_\_\_\_days per week

No vigorous activity in leisure time ➡ **Skip to question 24**


23. How much time did you usually spend on one of those days doing vigorous physical activities in your leisure time?

\_\_\_\_\_hours per day

\_\_\_\_\_minutes per day

24. Again, think about only those physical activities that you did for at least 10 minutes at a time. During the last 7 days, on how many days did you do moderate physical activities like bicycling at a regular pace, swimming at a regular pace, and doubles tennis in your leisure time?

\_\_\_\_\_days per week

No moderate activity in leisure time  **Skip to PART 5**

25. How much time did you usually spend on one of those days doing moderate physical activities in your leisure time?

\_\_\_\_\_hours per day

\_\_\_\_\_minutes per day

#### PART-5

#### TIME SPENT SITTING

The last questions are about the time you spend sitting while at work, at home, while doing course work and during leisure time. This may include time spent sitting at a desk, visiting friends, reading or sitting or lying down to watch television. Do not include any time spent sitting in a motor vehicle that you have already told me about.

26. During the last 7 days, how much time did you usually spend sitting on a weekday?

\_\_\_\_\_hours per day

\_\_\_\_\_minutes per day

27. During the last 7 days, how much time did you usually spend sitting on a weekend day?

\_\_\_\_\_hours per day

\_\_\_\_\_minutes per day

This is the end of the questionnaire, thank you for participating.

## ব্যক্তিগত তথ্যাবলীঃ

১। নামঃ.....

২। মোবাইল নং.....

৩। বয়সঃ..... বছর।

৪। লিঙ্গঃ  পুরুষ।  নারী।

৫। বৈবাহিক অবস্থাঃ  বিবাহিত।  অবিবাহিত।

৬। ধর্মঃ.....

## কোমর ব্যথা সংক্রান্ত তথ্যাবলীঃ

### নিউমেরিক পেইন রেটিং স্কেল

৭। ০ থেকে ১০ এই স্কেলে (০=কোন ব্যথা নাই এবং ১০= চিন্তনীয় নিকৃষ্টতম ব্যথা) এই মুহূর্তে কিভাবে আপনি আপনার ব্যথা মূল্যায়ন করবেন ?

১      ২      ৩      ৪      ৫      ৬      ৭      ৮      ৯      ১০

৮। একই স্কেলে গত সপ্তাহে আপনার ব্যথার স্বাভাবিক স্তর কিভাবে মূল্যায়ন করবেন ?

১      ২      ৩      ৪      ৫      ৬      ৭      ৮      ৯      ১০

৯। একই স্কেলে গত সপ্তাহে আপনার ব্যথা উত্তম স্তর কিভাবে মূল্যায়ন করবেন ?

১      ২      ৩      ৪      ৫      ৬      ৭      ৮      ৯      ১০

১০। একই স্কেলে গত সপ্তাহে আপনার ব্যথা নিকৃষ্টতম স্তর কিভাবে মূল্যায়ন করবেন ?

১      ২      ৩      ৪      ৫      ৬      ৭      ৮      ৯      ১০

## ইন্টারন্যাশনাল ফিজিক্যাল এন্টিভিটি কুসচেনিয়ার

### প্রথম অংশ

#### চাকরি-সংক্রান্ত শারীরিক কার্যকলাপ

প্রথম অধ্যায় আপনার কাজ সম্পর্কে। যেমন: চাকরি, কৃষিকাজ, স্বেচ্ছাসেবামূলক কাজ, পাঠক্রম এবং অন্য কোন অবৈতনিক কাজ যা আপনি আপনার বাড়ির বাইরে করেছেন। দয়াকরে বাড়ির কাজগুলো অন্তর্ভুক্ত করবেন না যেমন- গৃহের কাজ, উঠানের কাজ, সাধারণ তদারকি, আপনার পরিবার দেখাশোনা। এসব তৃতীয় অংশে জিজ্ঞেস করা হবে।

১। বর্তমানে আপনার কোন চাকরি আছে অথবা বাড়ির বাইরে কোন অবৈতনিক কাজ করেন?


হ্যাঁ।

না।  দ্বিতীয় অংশে চলে যান

পরবর্তী প্রশ্নগুলো হল শারীরিক কার্যকলাপ সম্পর্কে যা আপনি আপনার বৈতনিক অথবা অবৈতনিক কাজের অংশ হিসেবে গত ৭ দিনে করেছেন। কাজে যাওয়া আসা এই কাজের অন্তর্ভুক্ত নয়।

২। গত ৭ দিনের কতদিন আপনি আপনার কাজের অংশ হিসেবে সবল শারীরিক কাজকর্ম করেছেন যেমন- ভারী কিছু উত্তোলন, খনন, ভারী নির্মাণ কাজ, অথবা সিঁড়ি আরোহণ করেছেন? ভেবে বলুন শুধু ঐসব শারীরিক কাজকর্ম যা আপনি একটানা অন্তত ১০ মিনিট করেছেন।

সপ্তাহে.....দিন

কোন সবল কাজ সংক্রান্ত শারীরিক কার্যকলাপ করা হয়নি।  ৪ নং প্রশ্নে চলে যান

৩। সাধারণত কত সময় আপনি আপনার কাজের অংশ হিসেবে সবল শারীরিক কাজকর্ম করতে ব্যয় করেছেন?

দিনে.....ঘণ্টা।

দিনে.....মিনিট।

৪। আবার ভাবুন শুধু ঐসব(উপরের উত্তরে প্রাপ্ত দিন)শারীরিক কাজকর্ম যা আপনি একটানা অন্তত ১০ মিনিট করেছেন। গত ৭ দিনের কত দিন আপনি আপনার কাজের অংশ হিসেবে মধ্যপন্থী শারীরিক কাজকর্ম যেমন-হালকা ভারী কিছু বহন করেছেন?

সপ্তাহে.....দিন

কোন মধ্যপন্থী কাজ সংক্রান্ত শারীরিক কার্যকলাপ করা হয়নি। ➡ ৬ নং প্রশ্নে চলে যান

৫। আপনি সাধারণত কত সময় ঐসব(উপরের উত্তরে প্রাপ্ত দিন) দিনের একদিনে আপনার কাজের অংশ হিসেবে মাঝারি ধরনের শারীরিক কাজকর্ম করতে ব্যয় করেছেন?

দিনে.....ঘণ্টা।

দিনে.....মিনিট।

৬। গত ৭ দিনের কতদিন আপনি আপনার কাজের অংশ হিসেবে একটানা অন্তত ১০ মিনিট হেঁটেছেন? দয়াকরে কাজে যাওয়া-আসার ভ্রমণকে গণনা করবেন না।

সপ্তাহে.....দিন

কাজ-সংক্রান্ত কোন হাঁটা হয় নাই। ➡ দ্বিতীয় অংশে চলে যান

৭। আপনি সাধারণত ঐসব(উপরের উত্তরে প্রাপ্ত দিন) দিনের একদিনে কত সময় আপনার কাজের অংশ হিসেবে হেঁটে ব্যয় করেছেন?

দিনে.....ঘণ্টা।

দিনে.....মিনিট।

## দ্বিতীয় অংশ

### পরিবহন শারীরিক কার্যকলাপ

এই প্রশ্নগুলো হোল একস্থান থেকে অন্য স্থানে ভ্রমণ সম্পর্কে এর অন্তর্ভুক্ত কোন জায়গায় ভ্রমণ যেমন কাজে, দকানে, সিনেমা এবং অন্য কথাও ভ্রমণ।

৮। গত ৭ দিনের কতদিন আপনি মোটরযান যেমন ট্রেন, বাস, গাড়ি, বা ট্রামে ভ্রমণ করেছেন?

সপ্তাহে.....দিন

কোন মোটরযানে ভ্রমণ করা হয় নাই। ➡ ১০নং প্রশ্নে চলে যান

৯। আপনি সাধারণত ঐসব(উপরের উত্তরে প্রাপ্ত দিন) দিনের একদিনে কত সময় ট্রেন, বাস, গাড়ি, ট্রাম অথবা অন্য কোন মোটরযানে ভ্রমণ করেছেন?

দিনে.....ঘণ্টা।

দিনে.....মিনিট।

এখন ভারুন শুধু বাইসাইকেলে ভ্রমণ সম্পর্কে এবং আপনি কাজে যাওয়াআসার ক্ষেত্রে, বার্তাবহন করতে, অথবা একস্থান থেকে অন্য স্থানে যেতে বাইসাইকেলে ভ্রমণ করতেন।



১০। গত ৭ দিনের কতদিন আপনি একজায়গা থেকে অন্য জায়গায় যেতে একটানা অন্তত ১০ মিনিট বাইসাইকেল চালিয়েছেন?

সপ্তাহে.....দিন

কোন বাইসাইকেল চালানো হয় নাই। ➡ ১২নং প্রশ্নে চলে যান

১১। আপনি সাধারণত ঐসব(উপরের উত্তরে প্রাপ্ত দিন) দিনের একদিনে কত সময় এক জায়গা থেকে অন্য জায়গায় যেতে বাইসাইকেল চালিয়ে ব্যয় করেছেন?

দিনে.....ঘণ্টা।                      দিনে.....মিনিট।

১২। গত ৭ দিনের কতদিন আপনি একজায়গা থেকে অন্য জায়গায় যেতে একটানা অন্তত ১০ মিনিট হেঁটেছেন?

সপ্তাহে.....দিন

কোন হাঁটা হয় নাই। ➡ তৃতীয় অংশে চলে যান

১৩। আপনি সাধারণত ঐসব(উপরের উত্তরে প্রাপ্ত দিন) দিনের একদিনে কত সময় এক জায়গা থেকে অন্য জায়গায় যেতে হেঁটে ব্যয় করেছেন?

দিনে.....ঘণ্টা।                      দিনে.....মিনিট।

## তৃতীয় অংশ

গৃহকর্ম, বাড়ির রক্ষণাবেক্ষণ, এবং পরিবারের যত্ন

এই অধ্যায় হল সেই সব শারীরিক কাজকর্ম যা গত ৭ দিনে আপনি আপনার বাড়ির আশেপাশে করতেন যেমন- গৃহের কাজ, বাগানকরা, উঠানের কাজ, সাধারণ তদারকি, আপনার পরিবার দেখাশোনয়া।

১৪। ভাবুন শুধু সেই সব শারীরিক কাজ সম্পর্কে যা আপনি একটানা অন্তত ১০ মিনিট করতেন। গত ৭ দিনের কতদিন আপনি আপনার বাগানে অথবা উঠানে সবল শারীরিক কাজ যেমন-ভারী কিছু উত্তোলন, কাঠ কাটা, তুষার সরানো, অথবা খনন কাজ করেছেন?

সপ্তাহে.....দিন

উঠানে অথবা বাগানে কোন সবল শারীরিক কাজ করা হয় নাই। ➡ ১৬নং প্রশ্নে চলে যান

১৫। আপনি সাধারণত ঐসব(উপরের উত্তরে প্রাপ্ত দিন) দিনের একদিনে কত সময় বাগানে অথবা উঠানে সবল শারীরিক কাজ করে ব্যয় করেছেন?

দিনে.....ঘণ্টা ।                      দিনে.....মিনিট ।

১৬। আবার ভাবুন শুধু সেই সব শারীরিক কাজ সম্পর্কে যা আপনি একটানা অন্তত ১০ মিনিট করেছেন। গত ৭ দিনের কয়দিন আপনি আপনার বাগানে অথবা উঠানে মাঝারি ধরনের কাজকর্ম যেমন-হাঙ্গা কিছু বহন,ঝাড়ু দেওয়া,জানালা ধৌত করা,মই দেওয়া এসব করেছেন?

সপ্তাহে.....দিন

উঠানে অথবা বাগানে কোন মাঝারি ধরনের শারীরিক কাজ করা হয় নাই। ➡ ১৮নং প্রশ্নে চলে যান

১৭। আপনি সাধারণত ঐসব(উপরের উত্তরে প্রাপ্ত দিন) দিনের একদিনে কত সময় বাগানে অথবা উঠানে মাঝারি শারীরিক কাজ করে ব্যয় করেছেন?

দিনে.....ঘণ্টা ।                      দিনে.....মিনিট ।

১৮। আরেকবার ভাবুন শুধু সেই সব শারীরিক কাজ সম্পর্কে যা আপনি একটানা অন্তত ১০ মিনিট করেছেন। গত ৭ দিনের কয়দিন আপনি আপনার বাড়ির ভিতরে মাঝারি ধরনের কাজকর্ম যেমন-হাঙ্গা কিছু বহন, জানালা ধৌত করা, ফ্লোর মাজা, ঝাড়ু দেওয়া এসব করেছেন?

সপ্তাহে.....দিন

বাড়ির ভিতরে কোন মাঝারি কাজ করা হয় নাই । ➡ চতুর্থ অংশে চলে যান

১৯। আপনি সাধারণত ঐসব(উপরের উত্তরে প্রাপ্ত দিন) দিনের একদিনে কত সময় বাড়ির ভিতরে মাঝারি শারীরিক কাজ করে ব্যয় করেছেন?

দিনে.....ঘণ্টা ।                      দিনে.....মিনিট ।

## চতুর্থ অংশ

চিতবিনোদন, খেলাধুলা, এবং অবসর সময়ের শারীরিক কার্যকলাপ

এই অধ্যায় হল সেই সব শারীরিক কাজকর্ম সম্পর্কে যা আপনি গত ৭দিনে কেবলমাত্র বিনোদন, খেলাধুলা, ব্যায়াম, অথবা অবসর সময়ে করতেন। দয়াকরে ইতিমধ্যে উল্লিখিত কোন কার্যক্রম অন্তর্ভুক্ত করবেন না ।

২০। ইতিমধ্যে উল্লিখিত কোন হাঁটাচলাকে গণনা না করে, গত ৭দিনের কয়দিন আপনি আপনার অবসর সময়ে একটানা অন্তত ১০ মিনিট হেঁটেছেন?

সপ্তাহে.....দিন

অবসর সময়ে হাঁটা হয় নাই। ➡ ২২নং প্রশ্নে চলে যান

২১। আপনি সাধারণত ঐসব(উপরের উত্তরে প্রাপ্ত দিন) দিনের একদিনে কত সময় আপনার অবসর সময়ে হেঁটে ব্যয় করেছেন?

দিনে.....ঘণ্টা।                      দিনে.....মিনিট।

২২। ভাবুন শুধু সেই সব শারীরিক কাজ সম্পর্কে যা আপনি একটানা অন্তত ১০ মিনিট করেছেন। গত ৭ দিনের কয়দিন আপনি আপনার অবসর সময়ে সবল শারীরিক কাজ যেমন- বায়ুজীবী(এরোবিক) কার্যক্রম, দৌড়ান, দ্রুত সাইকেল চালন, বা দ্রুত সাঁতার কাঁটা এসব করেছেন?

সপ্তাহে.....দিন

অবসর সময়ে কোন সবল শারীরিক কাজ করা হয় নাই। ➡ ২৪নং প্রশ্নে চলে যান

২৩। আপনি সাধারণত ঐসব(উপরের উত্তরে প্রাপ্ত দিন) দিনের একদিনে কত সময় আপনার অবসর সময়ে সবল শারীরিক কাজ করে ব্যয় করেছেন?

দিনে.....ঘণ্টা।                      দিনে.....মিনিট।

২৪। আবার ভাবুন শুধু সেই সব শারীরিক কাজ সম্পর্কে যা আপনি একটানা অন্তত ১০ মিনিট করেছেন। গত ৭ দিনের কয়দিন আপনি আপনার অবসর সময়ে মাঝারি কাজকর্ম যেমন- নিয়মিত গতিতে সাইকেলে চালানো, নিয়মিত গতিতে সাঁতার কাটা,এবং ডাবলস টেনিস এসব করেছেন?

সপ্তাহে.....দিন

অবসর সময়ে কোন মাঝারি কাজ করা হয় নাই। ➡ পঞ্চম অংশে চলে যান

২৫। আপনি সাধারণত ঐসব(উপরের উত্তরে প্রাপ্ত দিন) দিনের একদিনে কত সময় আপনার অবসর সময়ে মাঝারি শারীরিক কাজ করে ব্যয় করেছেন?

দিনে.....ঘণ্টা।                      দিনে.....মিনিট।

## পঞ্চম অংশ

### বসে সময় ব্যয়

শেষ প্রশ্নগুলো হল বসে সময় ব্যয় সম্পর্কে কাজের সময়, বাড়িতে, পাঠক্রম করার সময়, এবং অবসর সময়।  
এর অন্তর্ভুক্ত হতে পারে ডেস্কে বসা, বন্ধুদের পরিদর্শন, পড়া বা বসে বা শায়িত হয়ে টেলিভিশন দেখা।  
মোটরযানে বসে সময় ব্যয়কে অন্তর্ভুক্ত করবেন না যা আপনি ইতিমধ্যে আমাকে বলেছেন।

২৬। গত ৭ দিনের সাপ্তাহিক একদিনে আপনি সাধারণত কত সময় বসে ব্যয় করেছেন?

দিনে.....ঘণ্টা ।                      দিনে.....মিনিট

২৭। গত ৭ দিনের ছুটির দিনে আপনি সাধারণত কত সময় বসে ব্যয় করেছেন?

দিনে.....ঘণ্টা ।                      দিনে.....মিনিট ।