Faculty of Medicine

University of Dhaka

IDENTIFY THE LEVEL OF DISABILITY AMONG THE PATIENTS WITH LOW BACK PAIN

Md. Khorshed Alam Faisal

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

DU Roll No: 1134

Registration No. 8636

Session: 2017-2018

BHPI, CRP, Savar, Dhaka

Bangladesh Health Professions Institute (BHPI)

Department of Physiotherapy

CRP, Savar, Dhaka-1343, Bangladesh

September, 2023

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

IDENTIFY THE LEVEL OF DISABILITY AMONG THE PATIENTS WITH LOW BACK PAIN

Submitted by **MD. KHORSHED ALAM FAISAL** for the partial fulfillment of the requirements for the degree of Bachelor of Science in Physiotherapy (B. Sc. in PT)

.....................Svdh.....

Dr. Shazal Kumar Das, PhD

Lecturer and Coordinator, MPT Program

Department of Physiotherapy

BHPI, CRP, Savar, Dhaka

....

Professor Md. Obaidul Haque

Vice Principal

BHPI, CRP, Savar, Dhaka

....

Dr. Mohammad Anwar Hossain, PhD

Associate Professor of Physiotherapy, BHPI

Senior Consultant & Head of the Department of Physiotherapy

CRP, Savar, Dhaka

Approved Date:

This work is not presently being presented as a candidate for any degree and has not previously been approved in content for any degree. This dissertation is being submitted in partial fulfillment of the requirements for the degree of B. Sc. in Physiotherapy.

I certify that any instances of plagiarism or other forms of dishonesty in my work will result in an immediate failure and will be grounds for official disciplinary action. I guarantee for the fact that the thesis bound copy and electronic version are the same.

The research supervisor will be extremely concerned if the results of this project are shared for potential publishing, and it will be properly acknowledged as a graduate thesis with permission obtained from the physiotherapy department of the Bangladesh Health Professions Institute (BHPI).

Signature: Date:

Md. Khorshed Alam Faisal

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

DU Roll No: 1134

Registration No: 8636

Session: 2017-2018

BHPI, CRP, Savar, Dhaka

CONTENTS

Acknowledgment

First and foremost, I would like to express my thankfulness to Almighty Allah for giving me the ability to accomplish this assignment on time. I want to express my gratitude to my parents for continually motivating me to complete this research. The acknowledgement also goes to my younger brother who helped me a lot on technical sights. I also gratefully acknowledge my supervisor & respected Supervisor **Dr. Shazal Kumar Das (PhD)**, Lecturer & Coordinator, MPT Program, Department of Physiotherapy, Bangladesh Health Professions Institute (BHPI) providing me with his time, careful monitoring, and excellent direction without which I would not have been able to finish this project. I am also very thankful to Prof. **Md. Obaidul Haque**, Vice Principal, BHPI; **Dr. Mohammad Anwar Hossain (PhD)**, Associate Professor and head, of the Department of Physiotherapy, CRP.

I also express my gratitude to my beloved senior Shahid Afridi, Intern Physiotherapist, CRP, Savar. I am so much indebted to him for the journey of my research project.

I am also thankful to my seniors, classmates, and juniors, library stuffs who helped me to give advice and support a lot in my research journey.

Finally, I want to express my gratitude to everyone who voluntarily took part in my study as the study population as well as everybody else who was directly or indirectly involved in it.

ACRONYMS

BHPI	Bangladesh Health Professions Institute
BMRC	Bangladesh Medical Research Council
CBT	Cognitive Behavioral Therapy
CeHRes	Center for eHealth Research's
CLBP	Chronic Low Back Pain
CRP	Centre for the Rehabilitation of the Paralysed
EHR	Electronic Health Record
HCP	Health Care Personnel
ICF	International Classification of Functioning, Disability &
LBP	Low Back Pain
LOD	The longer period of Disability
NSAIDs	Non-Steroidal Anti Inflammatory Drugs
NSLBP	Non-Specific Low Back Pain
PBT	Prone Bridge Test
QOL	Quality of Life
RMDQ	Roland Morris Disability Questionnaire
SPSS	Statistical Package for the Social Sciences
USA	United States of America
WHO	World Health Organization

List of Figures

List of Tables

Abstract

Background: Low back pain is one of the major reasons for disability. Attention was given to identifying the level of disability among the patients with low back pain. **Objectives:** To identify the level of disability among the patients with low back pain. **Method:** The study design was cross-sectional. A total of 114 samples were selected conveniently for this project from the musculoskeletal unit at CRP, Savar. Data was collected by using a self-structured questionnaire and the RMDQ scale. Descriptive statistics using SPSS software version 25.0 were used for data analysis. **Result:** In this study, the minimum age of the participants was 18; the maximum age was 70 years, the mean was 39.10, and the standard deviation was 13.354. 45.6% (n=52) participants were female participants and 54.4% (n=62) participants were male participants. 90.4% (n=103) of participants lived in a nuclear family, and the rest of the participants 9.6% (n=11) lived in a joint family. 57.9% (n=66) of participants lived in an urban area and 42.1% (n=48) of participants lived in rural areas. The mean was 25.95 and the standard deviation was 66.977 for the duration of pain among the participants. 92.1% (n=105) of participants feel disturbed in their working place. The rest of the participants 7.9% (n=9) didn't feel any disturbance in their working place. The Mean value of the RMDQ total score was 14.25 and the Standard Deviation value of the RMDQ total score was 4.288. The researcher also found an association between the duration of pain and the lower back pain disturbing the work with a disability. **Conclusion:** From the point of view of the researcher, the socio-demographic section that was mentioned above was associated with the cause of disability. So to create awareness among the people, to advise people to take treatment after affecting any pain immediately, control or maintain co-morbidities in a normal range, maintain the working position in a right posture, and modify the working environment to relieve pain and also disability. Because disease leads to disability

Keywords: *Disability, Low back pain, Physiotherapy*

Word count: 10,016 words.

| CHAPTER-I | INTRODUCTION |

1.1 Background

Low back pain (LBP) is the pain that is the main contributor to disability in the world. It is a frequent cause of absence from work, decreased productivity, and caretaking (De Campos et al. 2021, p. 468). LBP is a significant public health issue that has a financial effect on all countries and raises self-perceived incapacity. It also has a connection with live performance, chronic illness, as well as early retirement (Mahdavi et al. 2021, p. 393). LBP is characterized as a lumbosacral area pain or discomfort that is localized over the gluteal crease and under the final rib, with or without referred leg pain. While LBP might be caused by anomalies or diseases that are identified or unidentified in over eighty-five percent of instances, LBP is regarded as non-specific (Bahns et al. 2021, p.1).

Several various identified or undiagnosed disorders or disorders can cause lower-back discomfort, which is a sign rather than a disease. It is identified by where the pain is felt, which is commonly between the lumbar creases and the lower rib borders. One or both legs may be painful in addition to the lower back, while some persons with lower back pain also experience neurological symptoms in their lower limbs (Hartvigsen et al. 2018, p.2357).

When LBP is a common occurrence in teenagers that is unrelated to low back pain in adults or whether prior LBP in teenagers is linked to LBP in adults is a matter of debate. When LBP was experienced in young adulthood, there was shown to be a 4.29 odds ratio for LBP later in life. Other writers have also discovered a connection between LBP in youth and LBP in maturity (Sundell et al. 2019, p.393).

Since LBP is the primary contributor to years spent disabled in developed nations, it continues to be a significant public health issue. Occupational LBP is a significant financial and social burden. In 2011, it was projected that LBP caused $14.2 billion in direct expenses in the United States for work-related overworking incidents. LBP is responsible for one-third of all professional musculoskeletal disorders and injuries that cause work incapacity. Even while 2/3 of LBP cases re-enter the workforce after a month,

17 percent and 7 percent of cases, respectively, have job impairment for 1 to 6 months and more than 6 months. Additionally, a longer period of disability (LOD) brought on by LBP is associated with a higher risk of developing a permanent disability (Shraim et al. 2015, p.1275). People with LBP frequently seek care from physiotherapists and other rehabilitation health professionals for both immediate and long-term LBP since conservative non-pharmacological care is seen as the main therapeutic choice. Despite LBP being quite common—up to 80 percent of the population report having at least a single episode in their lifetime3—the majority of patients are cured within thirty days. Yet between 10 and 40 percent of all LBP patients go through to experience chronic symptoms and become disabled in some way (Alhowimel et al. 2018, p.1).

Recommendations take into account the examination and management of the physical, psychological, and social variables that are thought to contribute to the discomfort and incapacity that persons with LBP feel. There is a significant frequency of low back pain (LBP), a musculoskeletal condition that is poorly understood and untreated in older persons. Given that numerous factors (such as psychiatric and physical complications, unhelpful coping mechanisms, and age-related physical issues) might change how LBP manifests in elderly people (Mescouto et al. 2022, p.3270).

Even though the majority of LBP sufferers find significant improvement within between six and twelve weeks, most also suffer a return within 12 months. LBP is regarded as a chronic illness with recurrent symptomatic episodes for this reason. The burden associated with this condition may be significantly reduced by effective preventative measures that lower future LBP intensity and related disability (De Campos et al. 2021, p. 468).

LBP is an important global health problem that places an enormous financial strain on all countries and contributes to self-perceived incapacity. It also has a connection to life effectiveness, chronic illness, and early retirement. Approximately eighty percent of people have reportedly had an LBP incident at some point in their entire lives (Mahdavi, et al. 2021, p 393). LBP is more prevalent in women and people aged Forty to sixty-nine. LBP incidence rises with age, and the amount of LBP throughout childhood correlates with the amount of LBP in maturity. It has been demonstrated that lower-back pains are

connected to those in the neck, upper back, and shoulders. Sophisticated outcome measurements are required in order to evaluate and track how CLBP affects physical functioning. The Roland Morris Disability Questionnaire (RMDQ) is a frequently used clinical trial tool that has been well-established and has had its psychometric qualities evaluated. To quantify the daily practical effects of CLBP, the RMDQ was created. Because of the character of the condition, it is mainly focused on physical functioning, even though it does encompass certain larger elements that could typically fit inside a precise definition of physical performance(Bahns et al. 2021, p.1).

Across the United States and around the entire globe, pain in these 3 areas is very typical. In general, low back pain is the seventh most frequent cause of seeing a physician in the US. In only the past three months, twenty-five percent of individuals in the USA reported having low back discomfort for at least twenty-four hours. Low back pain affects ten to thirty percent of Americans annually, and sixty-five to eight of Americans will have it at some point in their entire lives (Urits et al. 2019, p. 1).

A wide range of biophysical and social factors that affect function, engagement, and individual financial wealth are impacted by the pain and disability caused by chronic LBP. The application of non-pharmacological medications, like information that promotes self-care, the resume of regular activities, and exercise programs, is advised for treating individuals with LBP. Participating in physical rehabilitation therapy helps with pain, disability, and functional ability, among other things (Arcanjo et al.2022, p.101505). Perceptions about pain have a key role in the emergence of LBP-related impairment. A person will probably continue with what they do every day when a sharp pain stimulation is seen as a harmless sensation. However functional problems, pain-related dread, and associated safety-seeking behaviors (i.e., escape activity) will be promoted if this event is evaluated as severe and frightening (Alamam et al. 2021, p.2972).

According to the number of decades people live with a disability, LBP is the main cause of disability in both high- and low-income nations, with an average prevalence of up to eighty-four percent Self-reported amounts of impairment in people with LBP have not decreased over the past ten years, although growing awareness of the need to improve

health systems and for those who make choices to enhance care. Since persistent impairment has large adverse social effects, high costs, and is a strong predictor of chronicity, managing it is essential. Psychological, biological, social, and environmental effects are factors that contribute to the growth of recurrent LBP-related impairment (Longtin et al. 2021, p.2).

The particular nociceptive origin is unable to be determined in almost every instance where patients come with LBP; hence those who suffer are categorized into the as-called low back ache without a known cause. Malignancy, vertebral fractures, infections, or inflammatory conditions such as axial spondyloarthritis are among the major reasons for chronic low back pain that necessitate detection and targeted treatment, but these represent a relatively tiny percentage of patients (Hartvigsen et al. 2018, p.2357). Clinical evaluation for LBP aims to rule out non-spinal causes of LBP and classify patients into one of three groups that will ultimately guide care. The main component of the diagnostic triage categorization is an in-depth history and physical assessment of the patient; in addition, the largest NSLBP grouping is diagnosed by excluding the other two groups (Bardin et al. 2017,p. 268).

To aid in taking decisions, the length of what the patient is experiencing is used to classify them as having acute, subacute, or chronic low back pain. It's crucial to identify and explain the source of the low back discomfort, whether it's axial or radicular. current, average, worst, and best scores can be obtained by using a particular scale (such as a VAS scale or numerical rating scale score) to measure the intensity of the pain (Urits et al. 2019, p. 2).

Acute low back pain may be brought on by physiological (such as carrying abnormally) psychosocial (such as feeling weary or worn out) or a mix of the two (such as feeling preoccupied when carrying) reasons. However, an additional third of patients who are experiencing an acute episode are unable to identify a cause. Early dawn is when new episodes are most likely to premiere. The likelihood of a new episode or the severity of existing occurrences of low back pain is unaffected by the weather (Maher et al. 2017, p. 737).

The results of physiotherapy treatments may differ, but the most commonly monitored are pain and impairment. These results may be moderated by a variety of circumstances. In an additional study of information from a mixed-race prospective cohort. Patients' six-month results, evaluated on a variety of psychological, pain, and disability measures, were compared between patients who had recovered (12.6%) and those who had not (n=111) in the group of patients with CLBP and acute LBP (Alhowimel et al. 2018, p.2).

Among the variables that take into account differences among samples of CLBP patients could be age group: As chronic pain may be better expected and viewed as more "standard" in old age, elderly individuals may have lower levels of impairment and higher standard life satisfaction levels. Disability often rises with older age when variations in age in nonclinical evidence are taken into account. According to the renowned "good health" contradiction, happiness does not necessarily decrease with age, despite older age being associated with impairments of cognitive, physical, sensory, and additional resources. Even though longitudinal research has not been able to fully resolve this paradox, it is noteworthy that scores on (most) well-being indices continue to be relatively high even as people get older and older (Wettstein, M et al. 2019, p. 465).

Research in the past has shown that the therapeutic instruction of physiotherapists (such as biomedical/biopsychosocial), beliefs about the connection between painful symptoms and impairments in function, as well as convictions that individuals should refrain from action to prevent discomfort or harm, are all related to their therapeutic choices (Christe et al. 2021, p. 2).

Enhancing the power of the abdominal muscles through particular training is another technique utilized in physiotherapy for better back care and to avoid NSLBP in children and adolescents. The activities must be prescribed and overseen by an expert, should be performed gradually, and can be carried out by adults as well as kids. Improving hamstring flexibility is a fantastic approach to taking better care of your back (García-Moreno et al. 2022, p. 2).

1.2 Rationale

Low back pain is a very common problem in both developed and developing countries. It is more familiar to laborer individuals. There was some research to find out the identified level of disability among the patients with low back pain but there was some lack of association between disability and low back pain. The study aims to find out the identified level of disability among patients with low back pain. After completing this research, the researcher can explore the risk factors, signs & symptoms, of decreasing the working ability of the patient with low back pain. The researcher also finds the socio-demographic issues where the patients suffer the most. Socio-demographics like which category of age people suffer the most, male or female who suffer the most, rural or urban people who suffer the most, and professional people who suffer the most. Besides the low back pain, will find the other co morbidities. The researcher also finds the duration of pain and type of pain. The level of disability is being increased day by day due to work-related problems or postural problems. Among the problems around the back, low back pain is a very common problem for human beings and also a vital cause of disability. This study helps to find out the level of disability among the patients with low back pain. The RMDQ score will help to find out the disability level in this research. During the research timeframe, the researcher will find out how many patients suffer from disability. After finishing the research, this study will help the health professional to improve and enrich their knowledge and broaden their outlook.

1.3 Research Question

What is the level of disability among the patients with low back pain?

1.4 Research Aim

The study aims to identify the level of disability among the patients with low back pain.

1.5 Objectives

1.5.1 General Objective
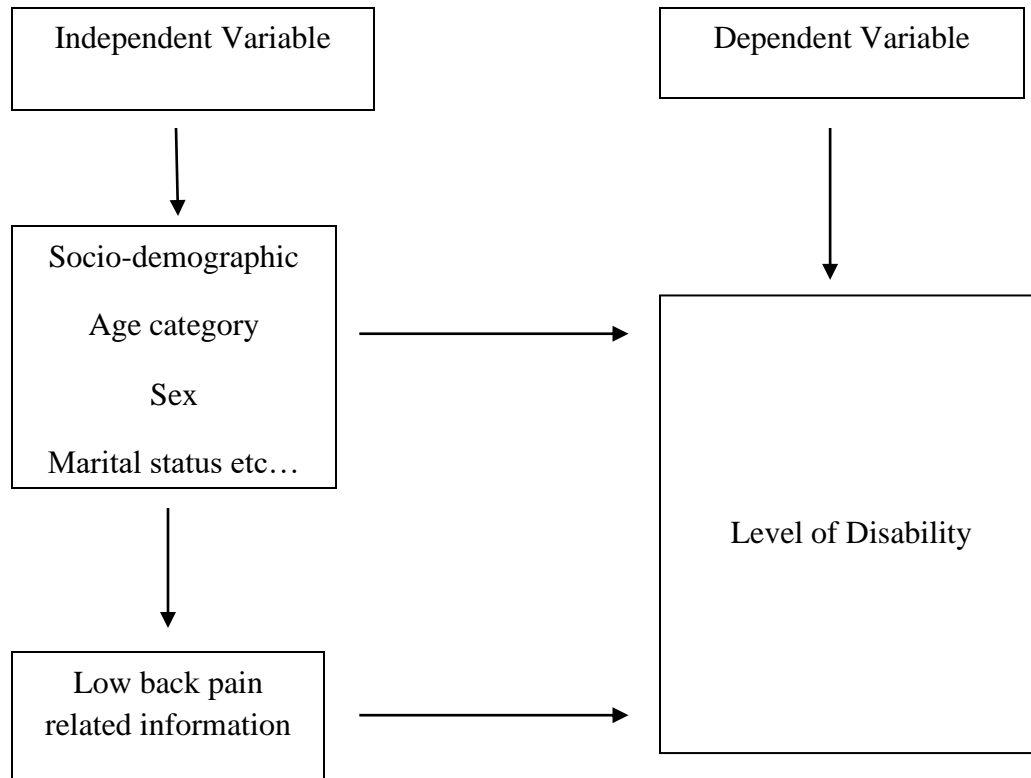
- To identify the level of disability among the patients with low back pain

1.5.2 Specific Objectives

i.   To explore the socio-demographic status
ii. To know the medical and low back pain related information
iii. To measure the level of disability among the patients with low back pain
iv. To identify the association between disability and socio-demographic related variables

1.6 Conceptual Framework

```
┌─────────────────────────┐              ┌─────────────────────────┐
│   Independent Variable   │              │    Dependent Variable    │
└─────────────────────────┘              └─────────────────────────┘
              │                                         │
              ▼                                         ▼
┌─────────────────────────┐              ┌─────────────────────────┐
│   Socio-demographic      │─────────────▶│                         │
│                          │              │                         │
│     Age category         │              │                         │
│                          │              │                         │
│        Sex               │              │                         │
│                          │              │    Level of Disability   │
│   Marital status etc…    │              │                         │
└─────────────────────────┘              │                         │
              │                           │                         │
              ▼                           │                         │
┌─────────────────────────┐              │                         │
│    Low back pain         │─────────────▶│                         │
│  related information     │              │                         │
└─────────────────────────┘              └─────────────────────────┘
```

1.7 Operational Definitions

Low Back Pain

The term "low back pain" refers to discomfort in the lower back. Back stiffness, limited lower back mobility, and trouble standing straight are all possible symptoms.

Disability

Any physical or mental ailment (impairment) that makes it harder for the affected individual to perform specific tasks (activity limitation) or engage with their environment is considered a disability.

Back Trauma

Any kind of injury that immediately impacts the back.

Chronic Pain

Pain that persists for more than 12 weeks without treatment or medication is referred to as chronic or persistent pain.

SPSS

Statistical Package for the Social Sciences

Low back pain is a pain which is occurred around the lumber area and it is one of the most common regions of pain, disability, and social cost globally (Ruffilli et al. 2023, p. 1854). LBP is the most prevalent health problem demanding physiotherapy worldwide and is also the most prevalent medical ailment affecting people with disabilities (Ammer et al. 2022, p. 270). Among mature and elderly people, low back pain (LBP) is a typical orthopedic condition that is quite prevalent (Ge et al. 2022, p. 2).

It is well recognized that several variables contribute to low back pain and its accompanying impairment, such as biological aspects related to anatomopathology, psychological, social, and co morbid physical alterations, as well as pain processing systems. As a result, the idea of approaching healthcare from a bio psychosocial perspective aligns with this clinical state. To gain an improved awareness of the health-disease process in individuals, this model was developed to extend the scope of the biological model and take into account the behavioral, psychological, and social aspects that are concurrent with the physical condition. Theory and practice are still very different, even though the necessity of applying this approach in clinical practice has been acknowledged (Yamada et al. 2023, p.4).

The prevalence of LBP was reported to be 36.84% among doctors which is lower than our study. Since our study was conducted in teaching hospitals, where doctors deal with a variety of patients, it is relevant because it reveals the top percentage of LBP among doctors. A while ago, the focus shifted to finding and analyzing the psychological aspects that affect recovery in patients with CLBP, such as predicting and dread of mobility. (Javed et al. 2023, p. 5-6).

According to this research, greenhouse vegetable producers had a greater incidence of LBP than those in other sectors. Experiments conducted in the field have revealed how difficult it is to grow in a greenhouse. At least a third of the year is spent in greenhouses by greenhouse vegetable growers. Workers typically adopt poor working positions,

including a significant anterior tilt and bending of the back, as well as prolonged kneeling or crouching, due to the small area for work in the greenhouse (Jia et al. 2022, p.5).

Despite lesser than the predicted 31% prevalence of low back pain in general and the thirty percent prevalence during 12 months, the prevalence of pain among staff at the warehouse was high at twenty-four percent. However, the point prevalence is still greater than normal at eighteen percent. According to the latest figures, eleventh to twelve percent of Brazilians suffer from chronic undifferentiated low back pain, which renders them incapacitated (Gomes et al. 2023, p. 827).

All over the world, the prevalence of LBP has reached an epidemic level, with a 23.2% one-month prevalence rate and a mean point prevalence rate of 11.9%.LBP exceeds every other type of disability in the US, per statistics from the US Burden of Disease Collaborators. Elderly people with LBP are more prone to face age-related physiological and psychosocial changes as well as LBP-related diseases, even if the majority of their cases are nonspecific and self-limiting. Among older adults, functional impairment is a serious health issue. It is defined as a restriction in one's capacity to carry out daily activities required for one to lead an independent life (Abd et al. 2021, p. 56).

Patients with acute low back pain should receive normal therapy that includes patient awareness and encouragement to exercise. Patient counseling may deal with the harmless, undifferentiated character and positive development of low back pain, and patients ought to be urged to keep up with usual tasks. While the benefits associated with heat and therapeutic massage is only partially supported by data, they are both risk-free and sensible to attempt. According to earlier research, physical impairment caused by LBP affects ten–to forty percent of the general population, including teenagers, and ten to fifteen percent of people may experience chronic LBP. In this study, those who were engaged more than 6 hours per week had a greater incidence of disability lasting longer than 30 days compared to those who were engaged less frequently twenty percent and fourteen percent, P 0.05). Adolescent athletes with incapacitating LBP must have comprehensive examinations since as much as ninety percent of them have significant diseases that require an assessment to be treated promptly. (Chiarotto & Koes, 2022, p. 1736).

A preventive factor for the occurrence of CLBP in elderly people was discovered to be a moderate amount of leisure-time physical exercise. Even though elderly people frequently experience non-specific CLBP, these data point to a significant lack of understanding in this population. In comparison to their non-obese competitors, elderly people with overweight exhibited greater 12-month CLBP prevalence. Due to its potential to elevate physical stress and generate meta-inflammatory impacts on the spine, being overweight is a known risk factor for CLBP in adults (Wong et al. 2022, p. 517).

The application of exercise to people with chronic LBP to lessen pain and disability. Aerobic treatments were superior to zero therapy, education (booklet or advice), placebo (only for pain), standard physiotherapy (only for disability), and pharmacological treatment if necessary for decreasing disability and relieving pain. To lessen the utilization of pharmacological and surgical possibilities, which are likely more expensive and more likely to have negative impacts, authorities should think about how to execute them in a clinical setting (Fernández-Rodríguez et al. 2022, p. 515).

These follow the conclusions of Wertli et al.'s systematic review, which discovered that individuals' anxiety-avoiding thoughts had a reducing effect on how well the treatment worked. The relationship between anxiety avoidance and physical handicap was the one that was most commonly observed in the current study. The results support the validity of the anxiety-avoidance paradigm, which predicts that the existence of psychological elements, such as anxiety about pain, catastrophizing, and sadness after suffering pain, results in fear of movement, which ultimately leads to inactivity and additional handicap (Alhowimel et al. 2018, p.6).

Today, the most common cause of disability worldwide is low back pain. Low back pain is becoming more prevalent, especially in countries with middle or low incomes, which is placing additional pressure on highly overloaded social and medical systems. People who are employed suffer from low back pain the most, and in elderly people, low back pain is linked to greater activity restrictions. The majority of low back pain occasions are temporary and lack a clear nociceptive etiology. Recurrences are typical, though, and a small number of patients develop persistent, incapacitating pain that is influenced by a variety of biophysical, psychological, and social factors (Hartvigsen et al. 2018, p.9).

The frequency of LBP may rise with aging for a variety of reasons. discomfort is a common symptom of aging and can limit social and physical activity. This limitation may lead to increased degradation of the musculoskeletal system and further discomfort. Degeneration of the lumbar region as a possible cause of LBP is still up for dispute (Wu et al. 2020, p. 11).

In contrast to outside-of-home tasks and generalized tasks, participation in domestic tasks was less among elderly patients. The highest degrees of disability were discovered in the oldest individuals, with physical disability criteria showing a noticeably distinct age pattern and being highly inversely correlated with chronological age. On the other hand, elderly patients did not report lower physical health, and in fact, they performed better than younger individuals in terms of mental health (Wettstein et al. 2019, p. 5).

Despite the reality that pain has an obvious effect on disability, its origins in chronic illnesses are typically complex and may manifest differently clinically. It is possible that following the time the tape has been removed, the tension it generated could have improved proprioceptive signals and facilitated proper alignment and motion. According to some researchers, this increase in proprioception may help patients attain and maintain their ideal body posture and increase their awareness of their spinal movements, which will help them make less harmful motions (de Brito Macedo et al. 2019, p.9).

Statistics indicate that raising socioeconomic standards in low- and middle-income nations can avoid or decrease the prevalence of low back pain, but it may also lead to demands and standards for low-quality medical care and medical research, which paradoxically raises the probability of long-term back-related disability (what we refer to as the low back pain paradox) (Buchbinder et. 2018, p. 2384). Unhelpful attitudes held by physiotherapists were typically centered on the back's susceptibility to injury and the requirement for defense. Most physiotherapists agreed that lifting without flexion of the knees is unsafe and that care should be taken to prevent back injury. They also agreed that proper posture is crucial for protecting the back. In addition, it was widely believed that the back might be harmed by abuse and that one should limit activity until the pain subsided (Christe et al. 2021, p. 4).

Exercise and physical activity were frequently identified by participants as crucial skills for self-management. Also addressed was taking an active role in one's recovery and therapy. Multiple times referred to coping mechanisms and confidence. The patient must actively participate in the care process, assume liability for the treatment procedure, and have a healthy method of dealing with difficulties to practice managing oneself. Assistance with self-management should include educating patients on generalizable techniques they can apply to treat their problem or disease (Huttinget al. 2020,p. 6). Evaluation of compliance with guidelines is a complicated process, and while outcomes from different nations show significant differences in guideline compliance, many other factors could be at play. Research documents differences in the meaning of compliance, the techniques used to evaluate compliance (vignettes, expenses of accounts, options for therapy, etc.), the patient defined in the example (symptom complaints, personal characteristics), and the major areas determined (activity, work, referral to experts and X-ray, medication, bed rest, etc.) (Husted et al. 2020, p.6).

Prior studies indicate that high-risk therapeutic training may increase physiotherapists' belief in caring for these types of clients. Physiotherapists with training said they had a wider perspective, were employing their newly acquired conversational abilities effectively, and had better client contacts. A few respondents preferred working together with psychologists and expressed doubt about the competence of German physiotherapists in managing high-risk patients (Karstens et al. 2018, p. 9).

Several research projects have shown that the therapeutic management suggestions made by HCPs to patients are influenced by their perspectives and opinions, and this could lead to improved treatment of LBP in medical care. After a minimum of nine seminars with cognitive functional therapy training, 13 licensed physical therapists reported feeling more confident in their ability to handle the biopsychosocial elements, according to a qualitative study that examined LBP therapies with a biopsychosocial orientation (Schröder et al. 2020, p.9).

Developing a framework for data gathering is crucial before using an established set in everyday practice. For instance, the Electronic Health Record (EHR) that physiotherapists use to keep track of their clinical data must be updated to reflect the

standard specified. Before the results can be analyzed, this EHR needs to be attached to a safe main database. Additionally, the systems must enable practices and physiotherapists to receive feedback on results that are helpful for quality enhancement (Verburg et al. 2019, p. 1556-1557).

According to the United Kingdom Royal College of General Physicians' Agency for Health Care Policy and Research recommendations, therapeutic massages for back pain sufferers are efficient but expensive. However, compared to earlier, many innovations have lately advanced and become more affordable. We also aimed to confirm the findings of an earlier study that showed the use of massage chair therapy to be less efficient than actual massage therapy. In our investigation, the massage chair offered affordable pain management (Kim et al. 2020, p.3).

The fact that the e-Exercise LBP experiment was a component of a multi-phase planning and execution process according to the Center for eHealth Research's (CeHRes) Framework is an important asset of this research. This all-encompassing approach offers direction throughout the collaborative creation of eHealth to improve subsequent deployment. The initial working version of the e-Exercise LBP intervention was created using the needs and principles of end-users and other stakeholders (such as physiotherapists and developers). The prototype was then put to the test in a pilot study for viability. The e-Exercise LBP intervention prototype underwent numerous significant adjustments based on feedback from patients and physiotherapists (Koppenaal et al. 2020, p. 9).

The trial had advantages. It was continuously registered and had design components including secret assignment and intent-to-treat analysis that are proven to reduce bias. In contrast to most LBP trials, which have very strict eligibility requirements, the people who participated were highly representative of persons with debilitating LBP in actual practice. Both therapies were given by the same trial's physiotherapists, minimizing the effects of differences in practitioner knowledge and manner of speaking on the outcomes (O'Keeffe et al. 2020, p.7).

The current research suggests that individuals who feel negatively about their pain may have a harder time recovering from pain-related deficits after an episode of NSLBP. The difference in patients' assessments of their level of disability was approximately thirty percent explained by catastrophizing, with the remainder due to pain and other factors. The findings of this study also imply that catastrophic perceptions of pain could be influenced by handicaps (Ogunlana et al. 2015, p. 76-77).

Past study has found that physiological handicap caused by LBP is expected to affect 10%–40% of the population as a whole, including teenagers, and that 10%–15% of people may acquire chronic LBP. In the research, those who were active more than 6 hours per week had a greater prevalence of disability lasting longer than 30 days relative to those who were active less frequently (20.1% and 14.7%, P 0.05). Youth sportsmen with incapacitating LBP need to be thoroughly assessed since many of them—up to 90%—have significant illnesses that require a diagnosis so they can be treated right away (Sundell et al. 2019, p. 397).

Though comprehensive pain management is frequently advised for persistent LBP, the efficiency and cost-effectiveness of such therapies have been questioned. Diverse methods may not be appropriate for everyone as a result, and some subcategories can benefit more than others. Research evaluating the trajectory of recovery from pain intensity and impairment conducted before ours has shown separate subgroups that had quite diverse recovery trajectories. On the RMDQ, the average increase in disability scores in connection to LBP falls short of the threshold clinically significant distinction of thirty percent that is advised. However, the results of this research show that baseline pain severity, pain catastrophizing, and depressive symptoms were linked to an absence of rehabilitation (Andersen et al. 2022, p.5).

It was important to note three things. (1) It has been suggested that smoking is a risk factor for CLBP. Our findings showed that smoking, even after adjusting for psychological factors could reliably predict impairment. Variables, demographics, and pain scores. (2) Unusual radiography images Because CLBP illnesses are complex in the natural world; findings had little effect on impairment. Despite reaching a particular radiological diagnosis, One cannot constantly presume a pain reason. Consequently,

examination of controlling CLBP and impairment, psychological variables are at least as crucial as routine radiographic exams. (3) The sample of patients with CLBP is diverse. The outer pain effects could interact with pain stimulation, sensitivity to the center of the brain, as well as emotional and mental processes (Hung et al. 2015, p. 195).

The main objective of our research was to look at the relationships between clinical test results and reports of pain and impairment. Our data demonstrated the presence of a causal link between disability and any medical tests. A similar connection was discovered. Considering the degree of discomfort for each test, except PBT. More encouraging outcomes on the clinical front In LBP patients, clinically unstable testing might be anticipated with a greater degree of discomfort or incapacity those who have more results of positive instability tests should be given a particular improved lumbar stability as the goal of the treatment. These individuals were discovered to respond better to a more proactive than those with an active stabilization approach and more responsive than those with an unmatched intervention. These individuals were discovered to respond better to a more responsive than those getting similar treatment while having adverse findings from the instability test and more proactive than individuals getting an uneven stabilization plan (Vanti et al. 2016, p. 365).

According to standards from the United States, Belgium, Denmark, and the United Kingdom, a recent evaluation has suggested modifications in the management. More persistent non-specific low back pain, alternative treatments, exercise, for example, and psychological try CBT (cognitive behavioral therapy) before using pharmaceuticals, such as NSAIDs non-steroidal anti-inflammatory medicines, and antidepressants are taken into account. Treatments involving multiple disciplines are advised. in addition. Every pharmaceutical treatment should be used for and at the lowest possible dose at the earliest opportunity. Surgery, denervation techniques, and injections are not recognized (Shipton 2018, p. 134).

The absence of advantages available during re-education, job transfer, or return to work, as well as a claim's reliance on medical certainty or availability of an appeals process, were all noted as significant determinants. The data points to better supervision of these methods. These laws require an open belief, which prolongs and reinforces impairment.

Once more, this poses a problem because it would require consideration of non-modifiable issues like unemployment rates and the commercial cycle. In fact, according to the results of ecological research, claim rates fall during recessions when jobless rates rise (Bartys et al. 217, p. 908).

For example, several research focused on individuals who had severe pain, underrepresenting subjects with mild or moderate pain. In addition, cultural variations across nations can be assumed, given that the majority of prior research on psychosocial On northern patients (from the Netherlands, Sweden, Canada, etc.), studies on characteristics affecting chronic pain have been done. Less self-assurance and a lack of understanding of how less confidence and ignorance of how many things there are may also be cultural differences. Apart from the house, female activities are frequently valued less than male ones, and housekeeping is not regarded as the right 'work'. the relationship between self-efficacy and the relationship between job efficiency and whether or not they labor a particular amount, but rather to their opinions, as well as the values they ascribe to the many different things they do (Ferrari et al. 2019, p. 6).

As it is the most prevalent cause of absence and job loss and the second biggest cause of disability after cardiovascular disease, the expenditures related to this condition are rising. Just ten percent of patients are still ill after six months, but this subset bears eighty percent of the financial burden. The overall functional outcome for these individuals is poor since, after six months of illness, only fifty percent of those who continue to be ill return to their prior employment, and nearly none do so after two years of illness. Based on the International Rating System of Functioning, Disability, and Health (ICF), low back discomfort can lead to changes in sleep patterns, muscle weakness, and impaired movement of the spine and extremities. Low back discomfort inhibits daily tasks like walking, using the stairs, shifting or maintaining body positions, and self-care, which limits social and professional interactions as well as recreational and leisure time activities (Payares et al. 2015, p. 1108).

3.1 Study Design

The purpose of the study was to identify the level of disability among the patients with low back pain. For this study, the cross-sectional design was selected to run the research and it seemed to be an effective design to figure out the objectives. The data were collected within a short time due to time limitations. The benefits of the study were it required a short time, no follow-up patients, and fewer resources to run the study.

3.2 Study Site

As it was a survey on identifying the level of disability among the patients with low back pain the researcher gathered the data from the Musculoskeletal Unit of the Centre for the Rehabilitation of the Paralyzed (CRP), Savar, and Dhaka. The patients who fulfilled the inclusion criteria were selected for this research.

3.3 Study Population

A population is an identifiable group or class of individuals, things, or incidents that constitute the subject of the inquiry. A literature review and the study's objectives were used to define the requirements for study populations. Selection standards were created progressively as the study's fundamental hypotheses and theoretical framework came into focus. The study populations were the patients who suffered from low back pain and the purpose was to identify the level of disability. The duration of the study was from the 4th of May to the 5th of July.

3.4 Sample Size

The target sample size was calculated following the WHO recommendation. It required the smallest sample size for a prevalence study.

The equation of this study is:

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

$$= \left(\frac{1.96}{0.05}\right)^2 \times 0.5 \times 0.5$$

$= 1536.64 \times 0.5 \times 0.5$

$= 384.16$

Here,

Z (confidence interval) = 1.96

P (prevalence) =0.5 (Islam et al. 2022, p.13).

And,

q = (1-p)

= (1-0.5)

= 0.5

d= 0.05

The actual sample size was, n= 384(384.16)

This study's actual sample size was determined to be 384. Due to limitations on time and the fact that this study is a component of academic research work, it was challenging to collect a larger number of samples. So, 114 Low back pain patients were selected as the sample of this study.

3.5 Sampling Technique

The research was run by using the convenient sampling technique. As there was a shortage of time limitations, the researcher selected this method. It was one of the simplest, least expensive, and fastest methods for choosing samples. The researcher set up this method to collect samples whose requirements were relevant to the goal of the investigation. It also took less time than many other sampling techniques because just the most appropriate candidates were chosen. Additionally, convenience sampling approach results were usually greater in comparison to other sampling techniques, approximate to the target population.

3.6 Inclusion Criteria

1. Patients with non-specific low back pain
2. Aged between 18 years and 80 years (Frizziero et al. 2021, p. 2).
3. Both male and female
4. No pathoanatomical diagnosis (e.g. stenosis, fracture).
5. Physiotherapy intervention, either alone or as part of a multidisciplinary team (Alhowimel et al. 2018, p. 2).

3.7 Exclusion Criteria

1. Medically unstable
2. Inability to give informed consent
3. Medical history of dementia
4. Patients and caregivers who did not voluntarily participate in the study

3.8 Outcome Measurement Tool

1. Self-structured question
2. Roland Morris Disability Questionnaire (RMDQ) Scale.

3.9 Data Collection Tools

Bengali and English Consent Forms and Questionnaires, as well as other items including a pen, pencil, eraser, clipboard, white paper, and notebook, were required for the study.

3.10 Data Collection

Written consent from the patient or caregiver was taken. Data was collected through face-to-face interviews with a Bengali questionnaire. Before taking information from patients or caregivers, researchers made sure that data collectors understood the entire data collection process and received enough training. To prevent mistakes, all of the data were gathered carefully by chosen, trained data collectors in the presence of the researcher. The researcher went over each questionnaire again to look for any missing or confusing information.

3.11 Data Analysis

Every response was reexamined once the initial data collection was finished to look for errors or confusing information. The data was then inputted into SPSS version 25 to analyze the gathered information. Microsoft Word 2007 was used to make most of the graphs and charts. Put the names of the variables, along with the categories, values, decimals, label alignment, and measurement level of the data, in the variable view of SPSS first. The SPSS data view input was the following stage. Following the completion of data entry to confirm that all information had been accurately transferred from the

questionnaire sheet to the SPSS data view, the researcher double-checked the inputted data. The raw data was then prepared for SPSS analysis.

3.12 Ethical Consideration

The BHPI ethical committee approved the research work, and the physiotherapy department approved the permission for the collection of data. The study's objectives and aims were clarified to the participants. The privacy of this study was taken seriously and conducted following the World Health Organization (WHO) and Bangladesh Medical Research Council (BMRC) guidelines. As it was mainly observational research, there was no intervention, hence the research is considered only to have a small ethical concern.

3.13 Informed Consent

For this study, a consent form was provided, and the subject was verbally informed of the research's purpose and the consent process. Participants gave their full consent and were free to leave at any time. Also promised to participants was that their privacy would be respected. No one will be able to be identified even though information may be used in publications or presentations. The population of physiotherapists may one day take advantage of the study's findings, even if they may not have any immediate consequences for them. The participant wouldn't feel humiliated by the research.

CHAPTER-IV **RESULTS**

For the study, a total of 114 participants who had low back pain were attending this research. Information was taken from them. The information analysis. The results are given below.
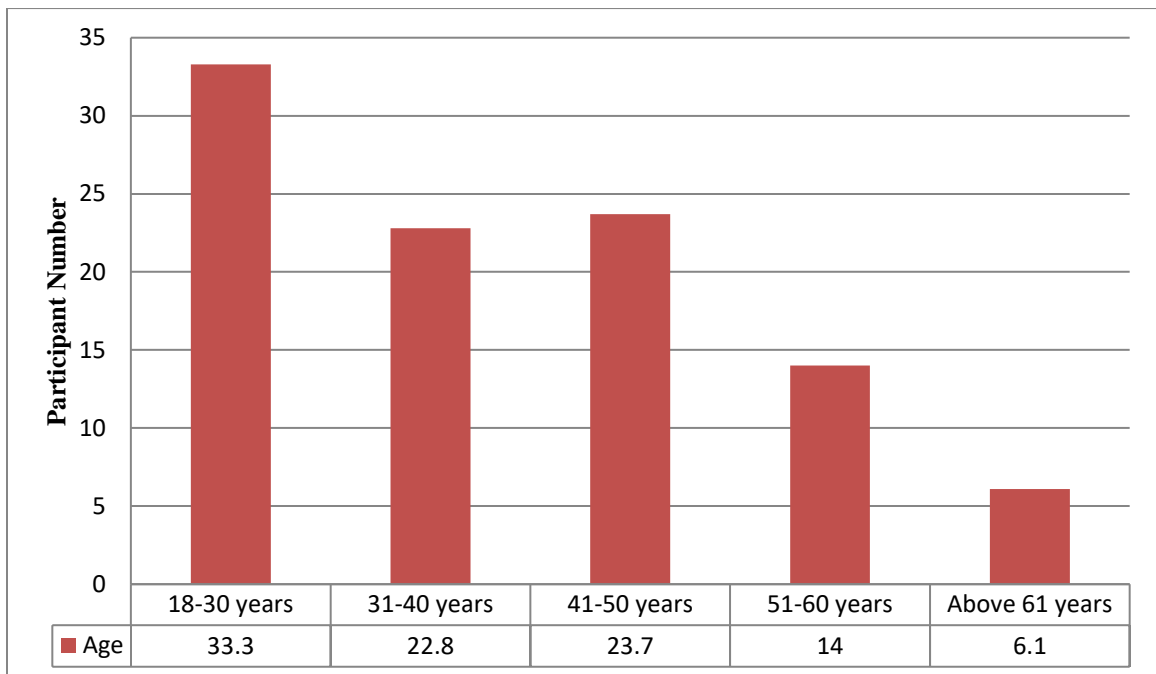
4.1.1 Age Category of the Participants

Table 1: Age category of the participants

Variable	Minimum	Maximum	Mean	Std. Deviation
Age	18	70	39.10	13.354

Among 114 participants, the minimum age of the participants was 18; the maximum age was 70 years, the mean was 39.10, and the standard deviation was 13.354.

A total of 114 participants I found when I collected data. Among these participants, most of the participants were between 18-30 years of age category. In this category, 33.3% (n=38) were found low back pain. The second largest group is 41-50 years and 23.7% (n=27) of participants have low back pain. The third largest group is 31-40 years and 22.8% (n=26) of patients identified low back pain. Following the less category, the 51-60 years age group had found 14% (n=16) of patient LBP. The minimum group of my research was above 61 years and only 6.1% (n=7) individuals had found low back pain among the participants.

Figure 1: Age category of the participants
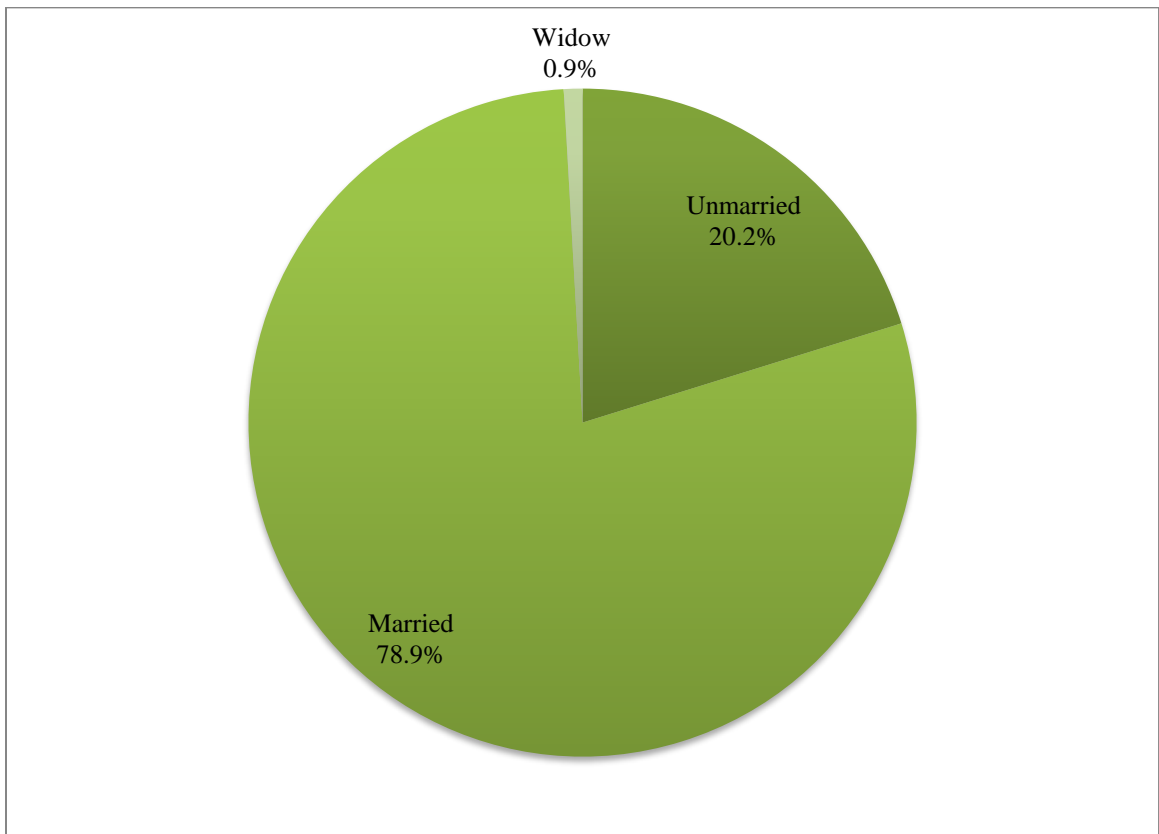
4.1.2 Gender of the Participants

Among 114 participants, 45.6% (n=52) participants are female participants and 54% (n=62) participants are male participants.
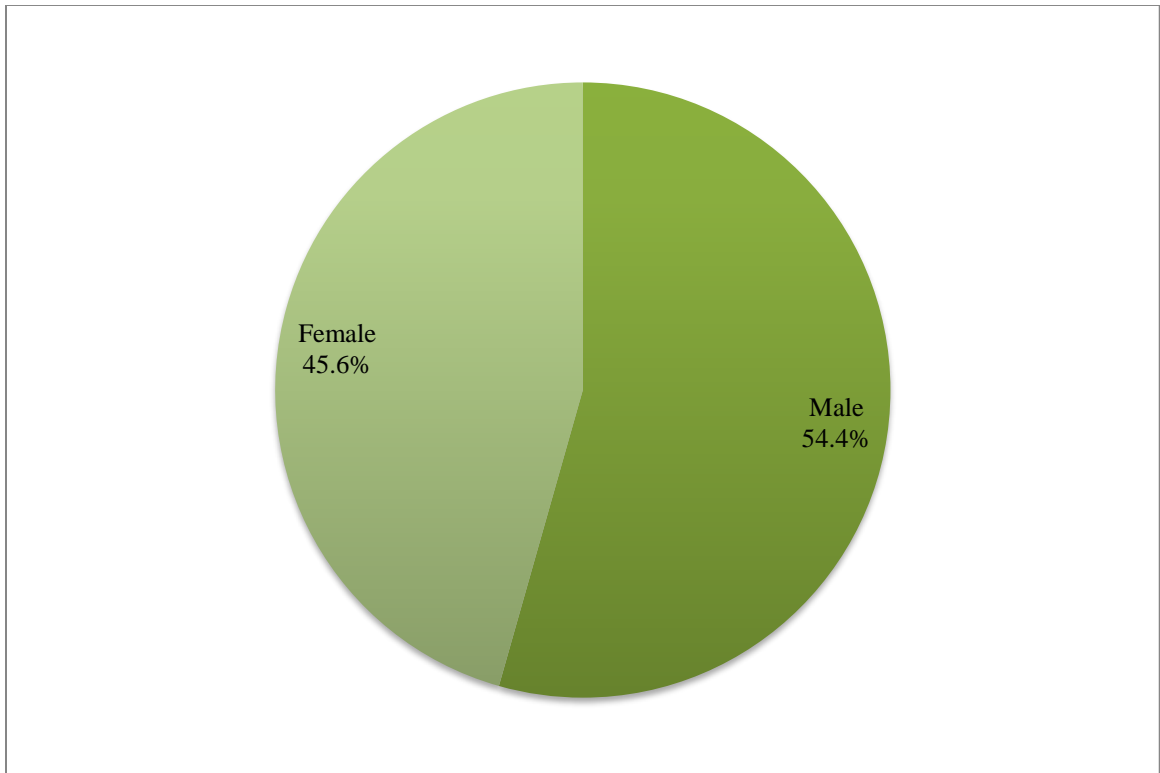
Figure 2: Gender of the participants

### 4.1.3 Marital Status of the Participants

Among the participants of the research, most of them are married. A smaller percentage is unmarried. Few are widows. From the pie chart, it is shown that 78.9% (n=90) are married. 20.2% (n=23) are unmarried and the rest of the percentage 0.9% (n=1) are widows.

Figure 3: Marital status

## 4.1.4 Educational Qualification of the Participants

In this figure, it is shown that there are five categories of educational qualification of the attended participants. From this category, it is clear that most of the participants are SSC passed then HSC and Honors or above. The SSC passed participants are 36.8% (n=42). The second largest category is HSC passed and 27.2% (n=31) participants were found in this group. The next one is Honors or above and 26.3% (n=30) participants are identified. There are 1.8% (n=2) participants who are primarily passed and the rest of them 7.9% (n=9) are illiterate.
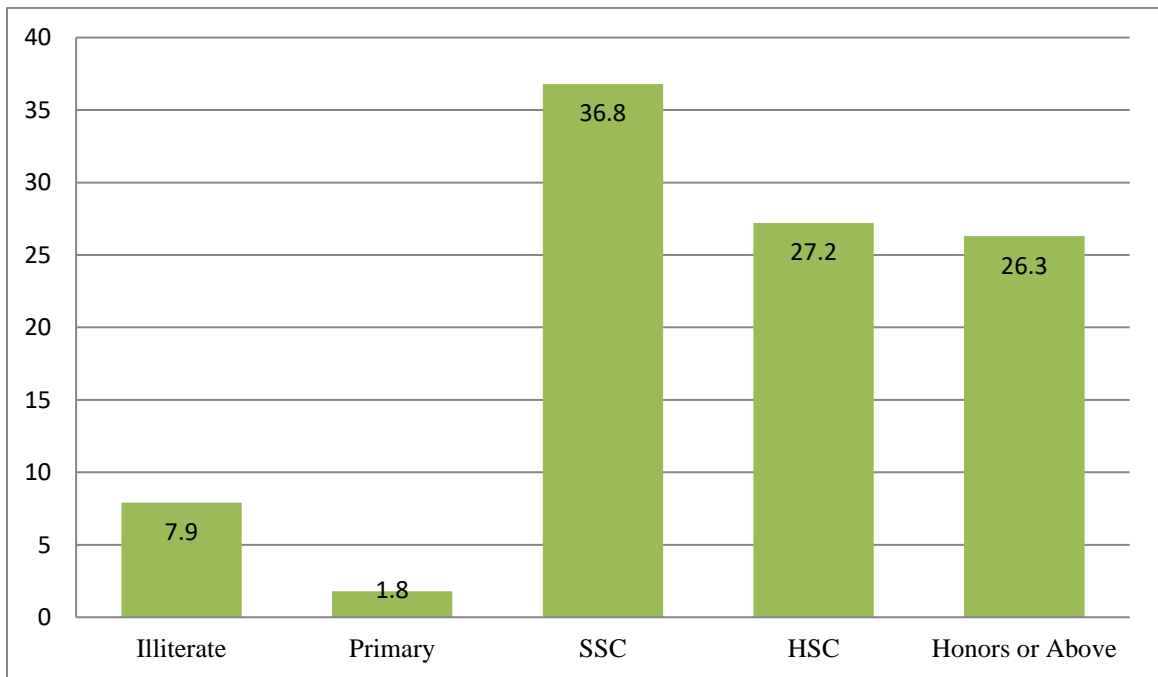
Figure 4: Educational qualification of the participants

4.1.5 Family Type of the Participants

From the figure, statistics show that 90.4% (n=103) of participants lived in a nuclear family, and the rest of the participants 9.6% (n=11) lived in a joint family. So it clearly says from the statistics point of view that the type of nuclear family is increasing and the type of joint family is decreasing.

Joint Family
9.6%

Nuclear Family
90.4%
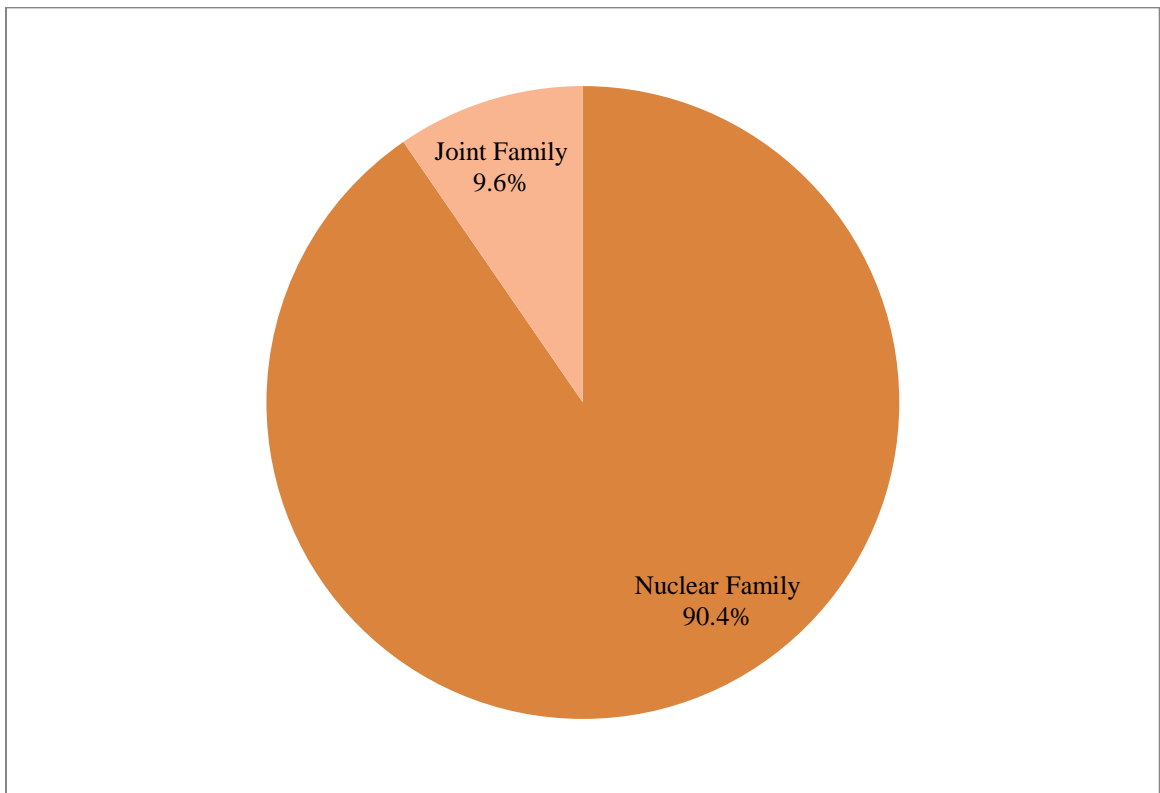
Figure 5: Family Type

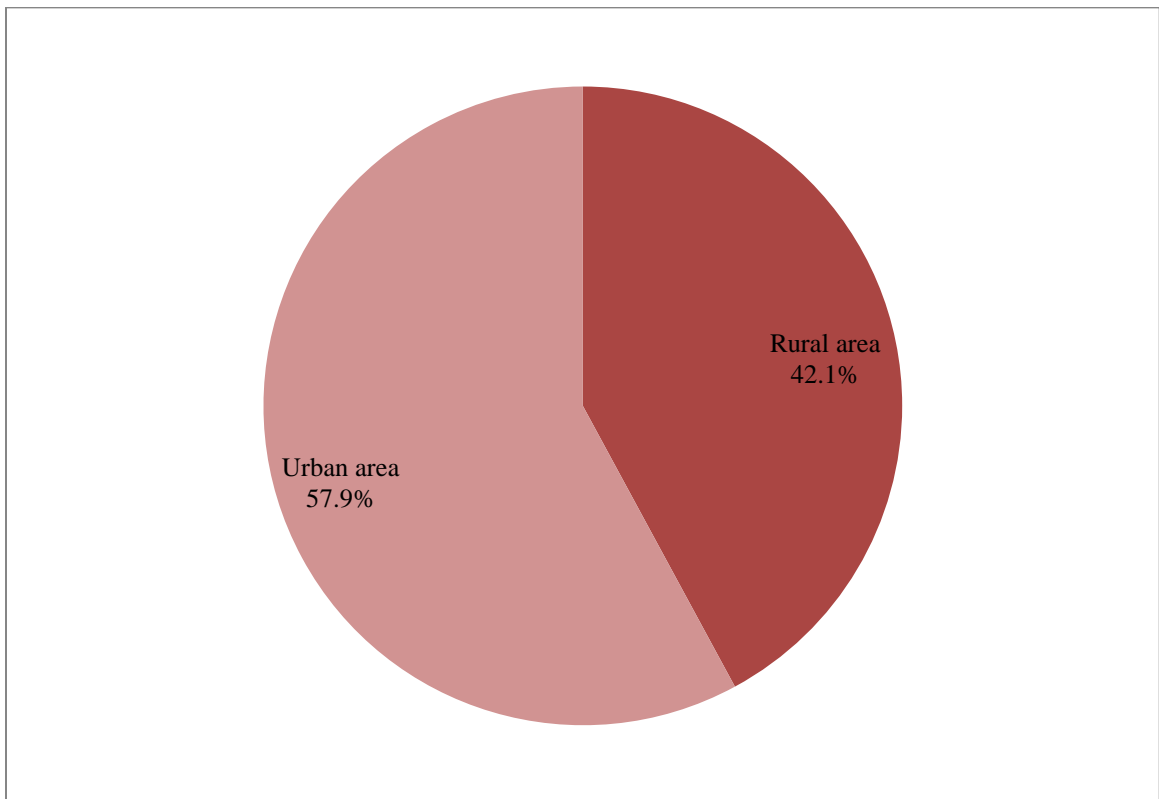## 4.1.6 Living Area of the Participants

From the figure, the research analysis shows the result that among the participants most of the people are lived in an urban area and fewer participants are lived in a rural area. 57.9% (n=66) of participants live in an urban area and 42.1% (n=48) of participants live in rural areas. So there is a difference between living areas.

Figure 6: Living Area

4.1.7 Profession of the Participants

Table 2: Profession of the participants

Variable	n (%)
Office Worker	26(22.8)
Day laborer	5(4.4)
Driver	2(1.8)
Housewife	38(33.3)
Retired	3(2.6)
Students	22(19.3)
Others	18(15.8)

In these statistics, the study displays the stats that most of the participants are housewives. The second largest group is office workers. The third one is students. Rests of them are day laborers, drivers, retired persons, and others. So from the statistics, it is said that 33.3% (n=38) are housewives, 22.8% (n=26) are office workers, 19.3% (n=22) are students, 15.8% (n=18) are others work involved, 4.4% (n=5) are day laborer, 2.6% (n=3) are retired and rest of them 1.8% (n=2) are driver.

4.1.8 Family Income of the Participants

The pie chart shows that most of the participant's income is above fifteen thousand and the rest of the participant's income is below fifteen thousand. Among the 114 participants, 68.4% (n=78) of participants' income was above 15000, and 31.6% (n=36) of participants had income below 15000.
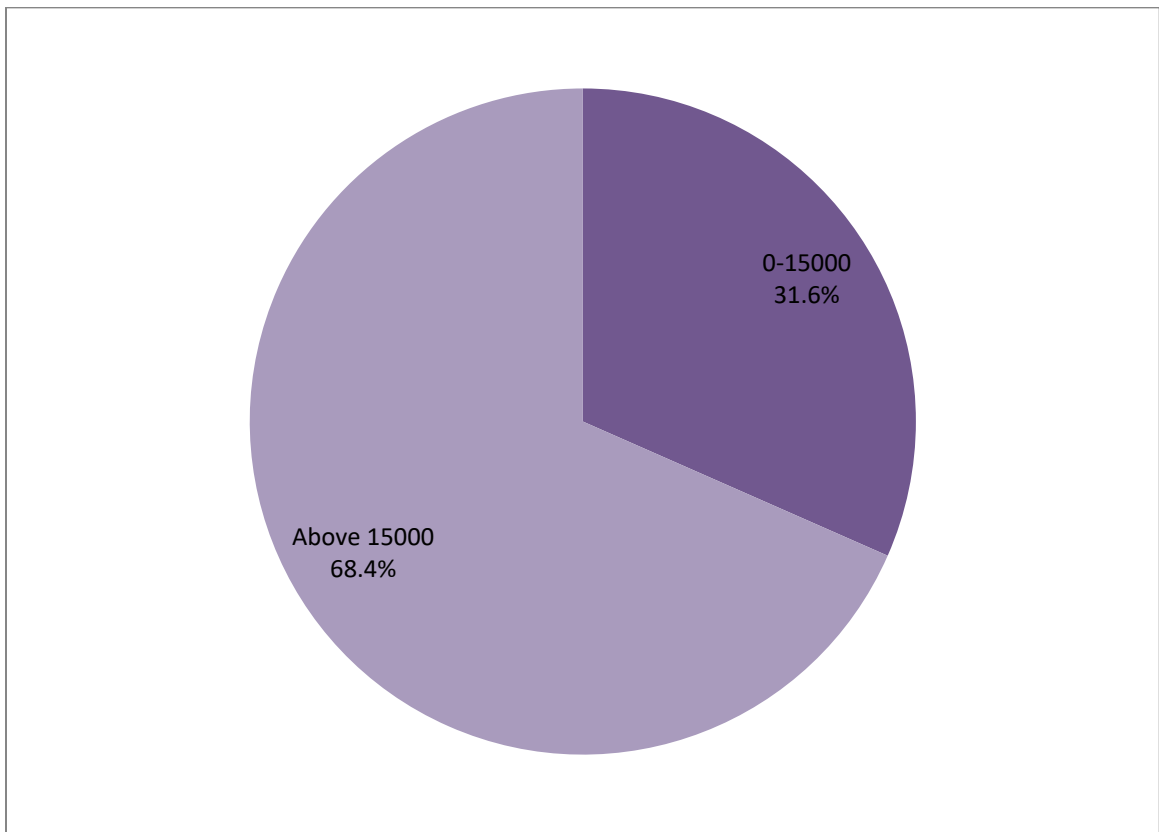
Figure 7: Family income of the participants

4.2.1 Duration of the Pain of the Participants

Table 3: Duration of the pain of the participants

Variable	Mean ± Std. deviation
Duration of Pain	25.95±66.977

This table shows the statistics of the mean and standard deviation of the duration of pain of the participants. The mean is 25.95 among the participants and the standard deviation is 66.977.

4.2.2 Type of Pain of the Participants

From the chart, the statistics declare the percentages of intermittent pain and constant pain. Most of the participants have constant pain and the rest of them have intermittent pain. From the pie chart, 62.3% (n=71) of participants have constant pain and the rest of the participants which is statistically 37.7% (n=43) participants have intermittent pain.
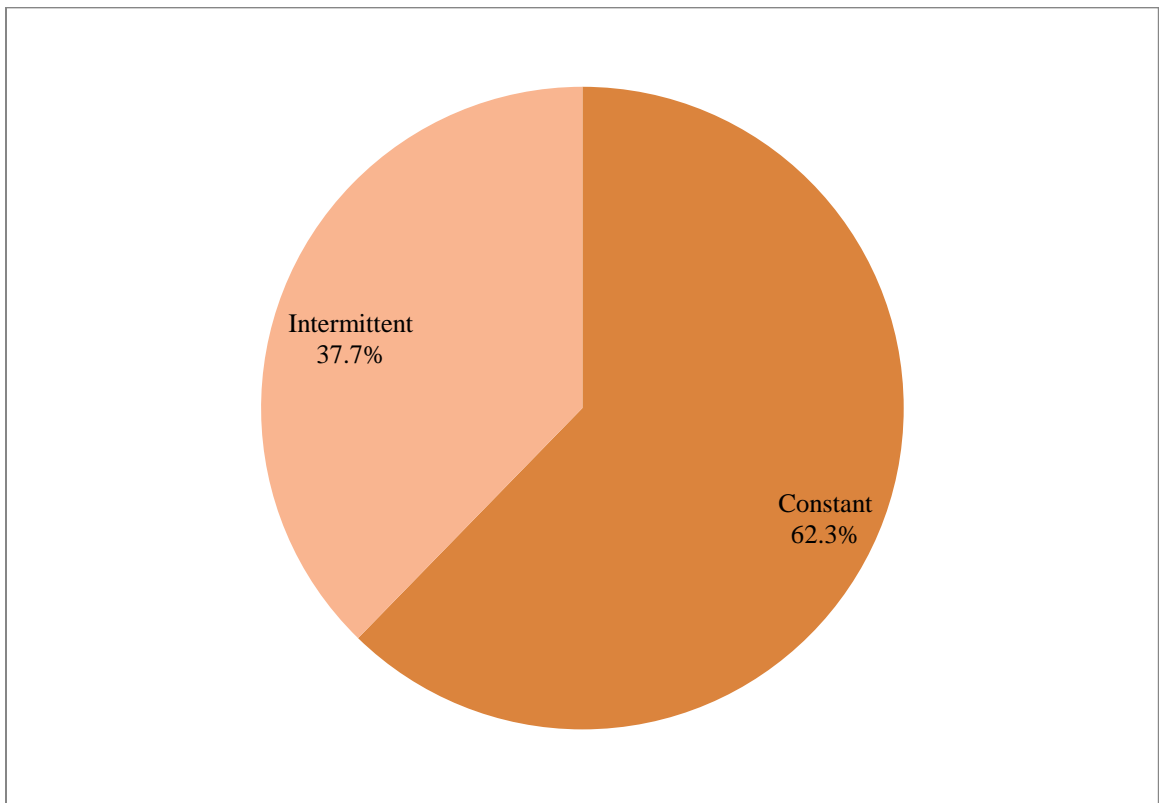
Figure 8: Type of pain of the participants

4.2.3 Increase Pain of the Participants

The column chart shows various positions where the participants feel pain and also increase pain. The positions are bending, sitting, standing, walking, and lying. In the bending position 50.9% (n=58) participants have increased pain, in the sitting position 51.8% (n=59) participants have increased pain, in the standing position 28.1% (n=32) participants have increased pain, in the walking position 24.6% (n=28) participants have increased pain and in lying position, 4.4% (n=5) have increased pain. Most of the participants have increased pain in the sitting position, the second one is the bending position and the lowest position is the lying position where the participants feel pain.

	Bending	Sitting	Standing	Walking	Lying
■ Series 1	50.9	51.8	28.1	24.6	4.4
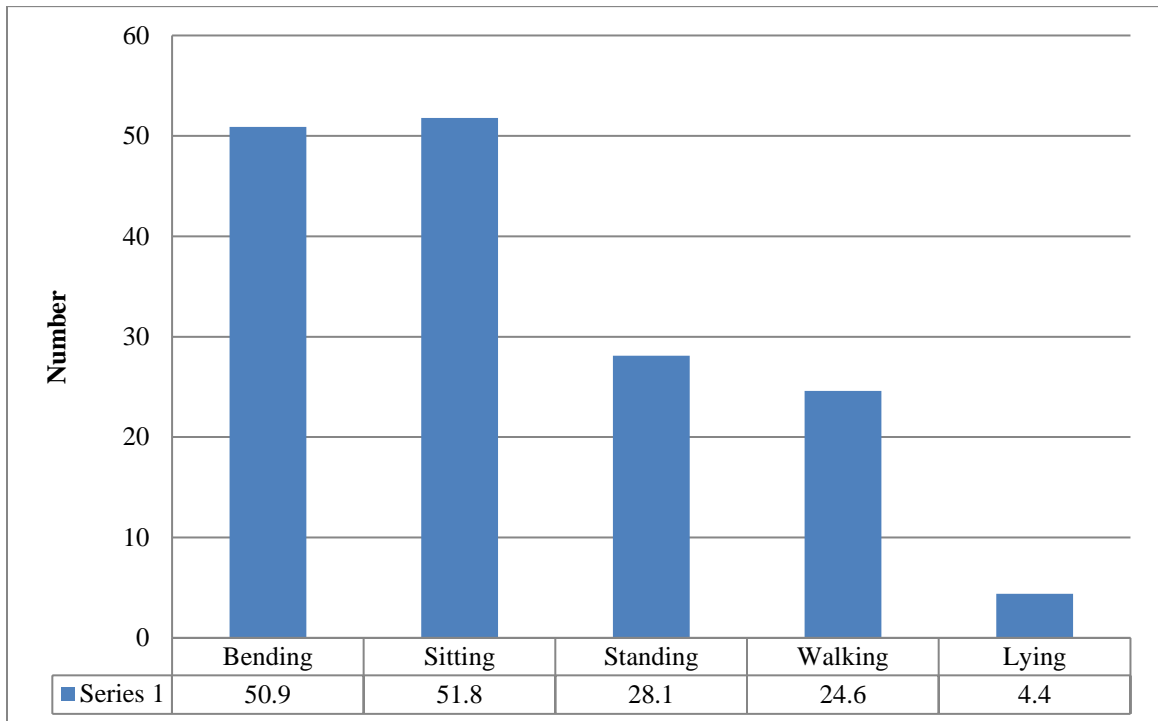
Figure 9: Increased pain of the participants

4.2.4 Co-morbidities of the Participants.

Table 4: Co-morbidities of the participants

Variable	n (%)
Diabetics	27(23.7)
High Blood Pressure	23(20.2)
Asthma	8(7)
Kidney disease	2(1.8)
Others	5(4.4)
Nothing	65(57)

From the table, the statistics show that most of the participants haven't any co-morbidities. Diabetics are the leading co-morbidities among the participants who have co-morbidities. Among the participants, 23.7% (n=27) participants have Diabetics, 20.2% (n=23) participants have High blood pressure, 7% (n=8) participants have Asthma, 1.8% (n=2) participants have Kidney disease, 4.4% (n=5) participants have other diseases and rest of the participants 57% (n=65) have no co-morbidities.

4.2.5 Do the Participants do the Same Work all the Day?

Most of the participants do the same work all day. From the pie chart, the statistics show that 68.4% (n=78) of participants do the same work all day. And rest of the participants 31.6% (n=36) don't do the same work all day.
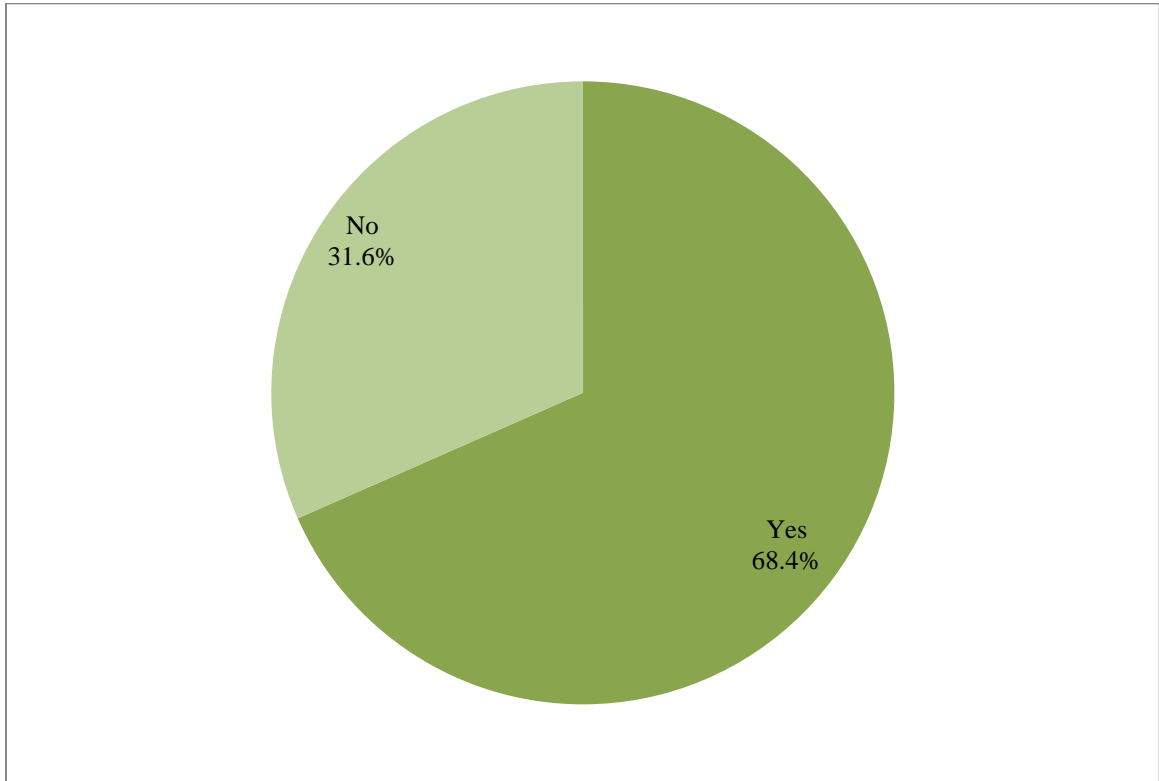
Figure 10: Do the same work all day?

4.2.6 Working Position of the Participant

Most of the participants have worked in a sitting position, the second one in a standing position and the rest of the participants have worked in a bending position. From the pie chart 82.5% (n=94) participants have worked in a sitting position, 14% (n=16) participants have worked in a standing position, and the rest of the participants 2.6% (n=3) have worked in a bending position.
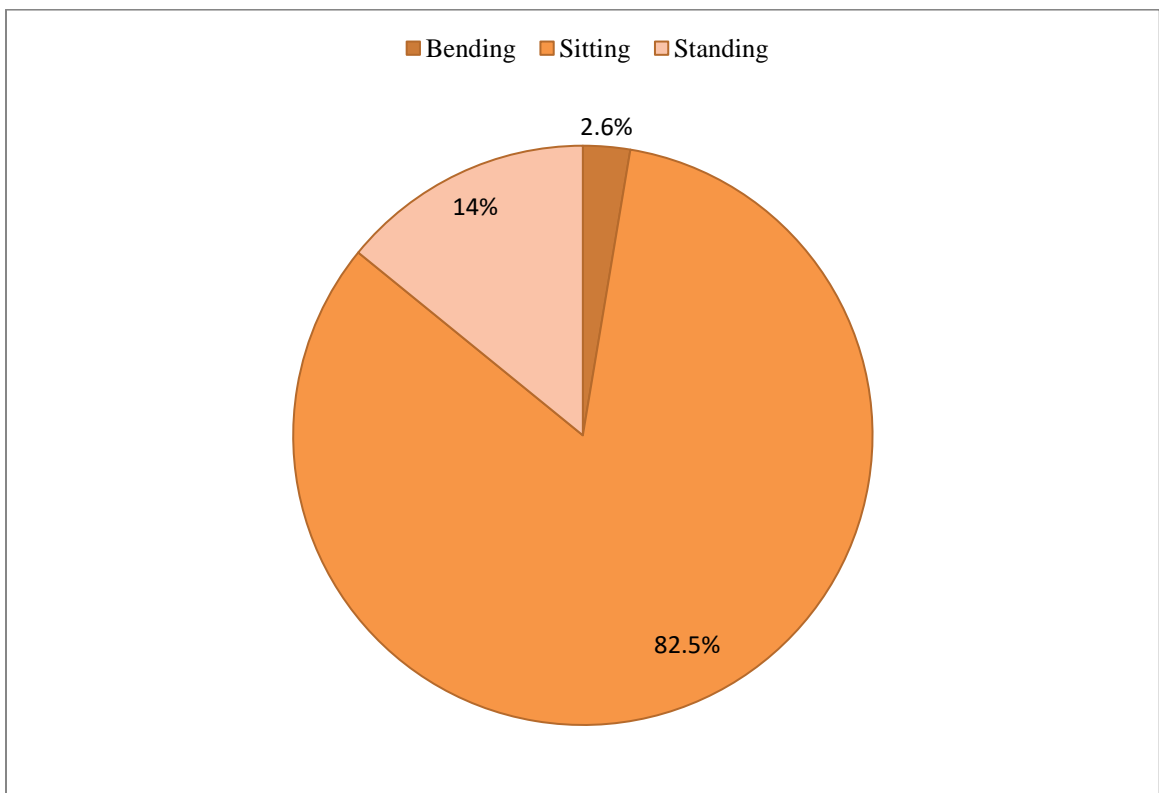
Figure 11: Working position of the participants

4.2.7 Is the Low Back Pain Disturbing the Work among the Participants?

In this pie chart, the statistics show that most of the participants feel disturbed in their work due to pain. Among 114 participants, 92.1% (n=105) participants feel disturbed in their working place. The rest of the participants 7.9% (n=9) don't feel any disturbance in their working place.
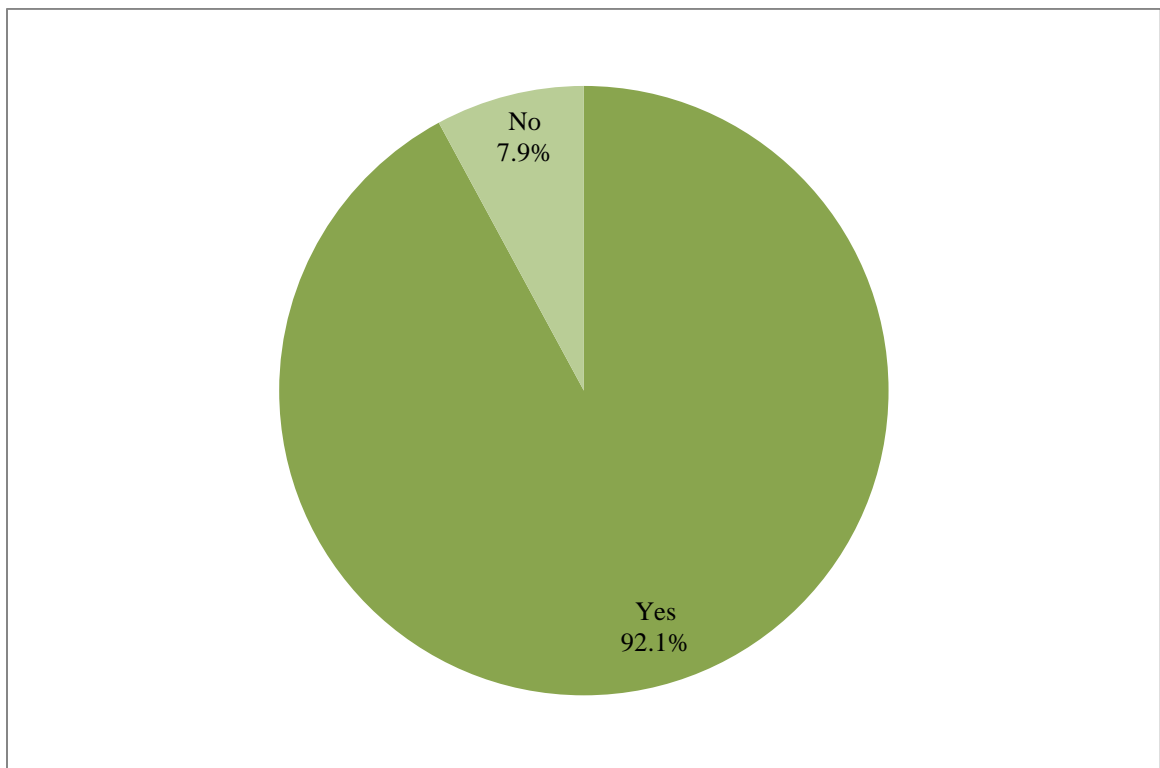
Figure 12: Is the low back pain disturbing the work?

4.2.8 Low Back Pain Starts for Which Type of Work among the Participants

The figure shows that the bending position is the most vulnerable position to start the pain at work. From the total 114 participants, in the bending position, 50.9% (n=58) participants had started low back pain. In the sitting position, 36.8% (n=42) participants had started low back pain in the standing position 10.5% (n=12) participants felt pain, in the walking position 10.5% (n=12) participants felt pain, and 1.8% (n=2) participants felt pain.

	Bending	Sitting	Standing	Walking	Lying
Series 1	50.9	36.8	10.5	10.5	1.8
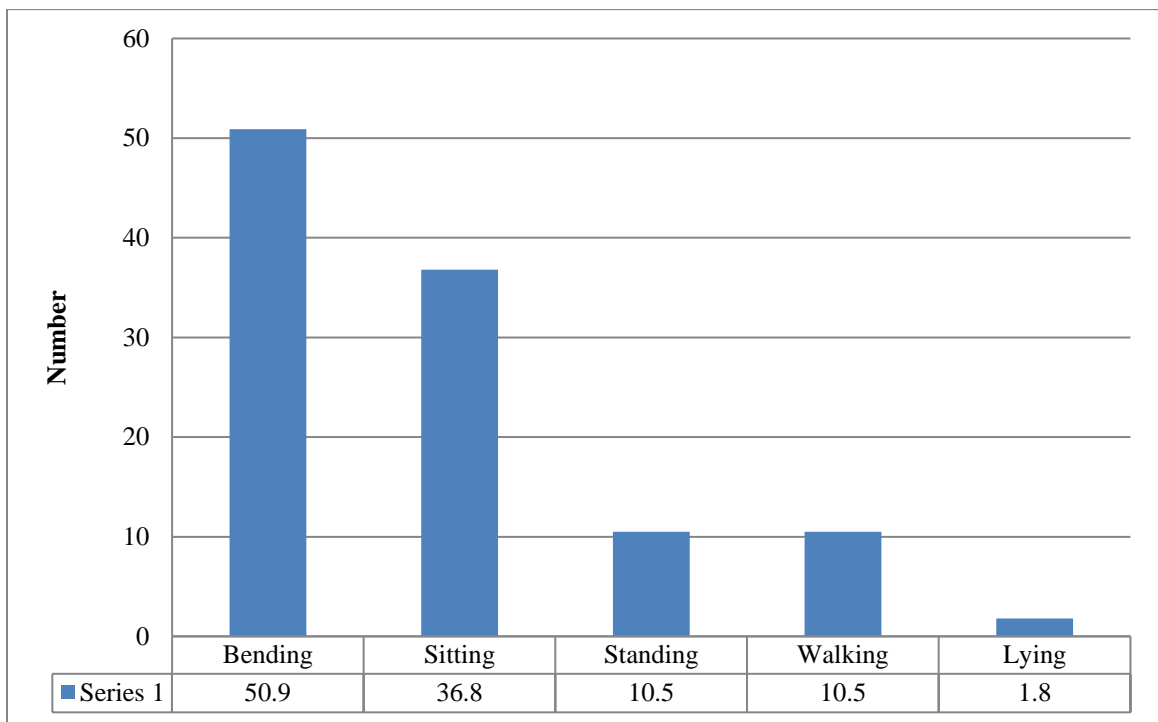
Figure 13: Type of work to start pain

4.3 Roland Morris Disability Questionnaire Total Score of the Participants

Table 5: RMDQ total score

Variable	Minimum	Maximum	Mean	Std. deviation
RMDQ Total Score	3	23	14.25	4.288

The table shows the calculation of the Roland Morris Disability Questionnaire total score among the participants. Among 114 participants, the Minimum value is 3 and the Maximum value is 23. The Mean value is 14.25 and the Standard Deviation value is 4.288.

4.4 Association between Disability and Socio demographic-related variables of the participants

Table 6: Association between Disability and Socio demographic-related variables of the participants

Independent Variable	Test Name	P- Value
Age Category	Chi-square	0.08
Gender	Chi-square	0.504
Marital Status	Chi-square	0.182
Educational Qualification	Chi-square	0.434
Family Type	Chi-square	0.889
Living Area	Chi-square	0.282
Profession	Chi-square	0.270
Family Income	Chi-square	0.671
Duration of Pain	Chi-square	0.052*
Type of Pain	Chi-square	0.089
Increase Pain	Chi-square	0.419
Co-morbidities	Chi-square	0.994
Do the same work all day?	Chi-square	0.533
Working Position	Chi-square	0.935
Is back pain disturbing the work?	Chi-square	0.003**

*≤0.05; **≤0.01; ***≤0.001

The table chart shows the association between disability and socio-demographic-related variables among the 114 participant patients. If the P value is less than 0.05, then the socio-demographic variable such as age category, gender, marital status, educational qualification, family type, living area, profession, family income, duration of pain, type of pain, increased pain, co-morbidities, do the same work all day, working position, is back pain disturbing the work will be significance. The chart, it is shows that age category, gender, marital status, educational qualification, family type, living area, profession, family income, type of pain, increased pain, co-morbidities, doing the same work all day, working positions P value is more than 0.05. So these values are not significant. There is no correlation between age category, gender, marital status, educational qualification, family type, living area, profession, family income, type of pain, increased pain, co-morbidities, doing the same work all day, working position, and disability. The value of the duration of pain and back pain disturbing the work is more than 0.05. So these values are significant. And also there is a correlation between the duration of pain, as back pain disturbing the work and the disability.

This study talks about pain and disability among the participants who were attending this study. The objective of the study is to identify the level of disability among patients with low back pain. In this study about 114 participants attended willingly. From 114 participants in the study, the minimum age of the participants was 18; the maximum age was 70 years, the mean was 39.10, and the standard deviation was 13.354. In an Italian study, the sample size was 310, and the mean and standard deviation of age were 49.83 and 14.35 (Ferrari et al. 2019, p.5).

Among 114 participants, 45.6% (n=52) participants are female participants and 54% (n=62) participants are male participants. Males 42% (n=319) and females 58% (n=441) found in a Brazilian study (Bento et al. 2020, p. 721).

Among the participants of the research, most of them are married. A smaller percentage is unmarried. Few are widows. it is shown that 78.9% (n=90) are married. 20.2% (n=23) are unmarried and the rest of the percentage 0.9% (n=1) are widows. Billis et al. (2017, p. 282) in their studies showed that 64% (n=300) was married, 25% (n= 119) was not married and 11% (n=51) was a widow.

It is shown in the study that there are five categories of educational qualification of the attended participants. From this category, it is clear that most of the participants are SSC passed then HSC and Honors or above. The SSC passed participants are 36.8% (n=42). The second largest category is HSC passed and 27.2% (n=31) participants were found in this group. The next one is Honors or above and 26.3% (n=30) participants are identified. There are 1.8% (n=2) participants who are primarily passed and the rest of them 7.9% (n=9) are illiterate. Stewart Williams et al. (2015, p. 7) revealed the statistics that in China 42.8% were not completed primary, 21.7% completed primary, 31.7% completed secondary or higher secondary, and 3.8% completed university. In India, 61.1% did not complete primary, 14.7% completed primary, 19.1% completed secondary or higher secondary, and 5.2% completed university. In Russia, 1.9% did not complete primary,

5% completed primary, 75.4 completed secondary or higher secondary, and 17.7% completed university.

The research analysis shows the result that among the participants most of the people lived in an urban area and fewer participants lived in a rural area. 57.9% (n=66) of participants live in an urban area and 42.1% (n=48) of patients live in rural areas. So there is a difference between living areas. 14.6% live in urban areas and 20.7% live in rural areas in a study done in Brazil (Malta et al. 2017, p.4)

From the statistics, it is said that 33.3% (n=38) are housewives, 22.8% (n=26) are office workers, 19.3% (n=22) are students, 15.8% (n=18) are others work involved, 4.4% (n=5) are day laborer, 2.6% (n=3) are retired and rest of them 1.8% (n=2) are driver. In the French survey, it was found that 36.2% were employed, 39.3% were looking for jobs, 45% were retired, 21.9% were students, 43.2% were homemakers, and 47.7% were inactive (Husky et al. 2018, p.4) Among the 114 participants, 68.4% (n=78) of participants' income was above 15000, and 31.6% (n=36) of participants had income below 15000. Billis et al. (2017, p. 282) in their studies showed that 30% of participants' income had less than 7200€, 60% of participants' income ranged from 7200-24000€ and 7% of participants' income had above 24000€.

The mean of duration of pain is 25.95 among the participants and the standard deviation of duration of pain is 66.977. The mean and standard deviation of the duration of low back pain are 112 and 120 (Tsuji et al. 2016, p.5). Among the participants, 23.7% (n=27) participants have Diabetics, 20.2% (n=23) participants have High blood pressure, 7% (n=8) participants have Asthma, 1.8% (n=2) participants have Kidney disease, 4.4% (n=5) participants have other diseases and rest of the participants 57% (n=65) have no co-morbidities. 7.19% had respiratory disease, 2.26% had heart disease, 10.72% had diabetics, 24.92% had high blood pressure, and 0.87% had a stroke (Palacios-Ceña et al. 2021, p. 385).

The statistics show that 68.4% (n=78) of participants do the same work all day. And rest of the participants 31.6% (n=36) don't do the same work all day. 82.5% (n=94) participants have worked in a sitting position, 14% (n=16) participants have worked in a standing position, and the rest of the participants 2.6% (n=3)have worked in a bending position. Among 114 participants, 92.1% (n=105) participants feel disturbed in their working place. The rest of the participants 7.9% (n=9) don't feel any disturbance in their working place.

From the total 114 participants, in the bending position, 50.9% (n=58) participants had started low back pain. In the sitting position, 36.8% (n=42) participants had started low back pain in the standing position 10.5% (n=12) participants felt pain, in the walking position 10.5% (n=12) participants felt pain, and 1.8% (n=2) participants felt pain.

Among 114 participants, the RMDQ score: the minimum is 3, the maximum is 23, the mean is 14.25 and the standard deviation is 4.288. In a Greek study, Billis et al. (2017, p. 282) in their studies showed the mean of RMDQ is 10.01 and the standard deviation of RMDQ is 6.14.

In this study, independent variables such as age category, gender, marital status, educational qualification, family type, living area, profession, family income, type of pain, increased pain, and co-morbidities, do the same work all day. the working position is not significant with the dependent variable of disability. On the other hand, another independent variable like the duration of pain and the back pain disturbing the work. is significant with the dependent variable of disability. If the value of the independent variable is less than 0.05, then it is called significant. But if the value is more than 0.05, then it is called not significant. So the value of age category, gender marital status, educational qualification, family type, living area, profession, family income, type of pain, increased pain, co-morbidities, do the same work all day? and the working position is more than 0.05. that's why they are not significant with the dependent variable of disability. On the contrary, other independent variable values like duration of pain and back pain disturbed the work. is less than 0.05. So they are significant with the dependent variable of disability. From these two significant variables, is back pain disturbing the work? is more significant.

In contrast to the cross-sectional connections of pain self-efficacy with pain severity and clinical features, which have both never been studied in the Italian population disability has already been raised in another magazine. In that study, there were weak relationships between pain self-efficacy and both disability and pain severity (r = 0.41 and 0.55 respectively). Disability was also significantly and strongly correlated with pain self-efficacy, according to association models that controlled for pain severity (Ferrari et al. 2019, p.5).

Regarding socio-demographic characteristics, the regression analysis model failed to find any connections between the location of residence, marital status, income, level of education, or history of smoking and either disability or pain severity. Age is the only component that has been shown in the linear regression models to be related to both pain intensity and disability, although sex has been linked to physical disability. The majority of LBP epidemiological studies have revealed that age is linked with self-reported disability (as a physical component) and QoL (as a lifestyle factor) (Billis et al. 2017, p. 286-287).

Opposite differences between education and wealth and back pain occurrence and severity have also been noted in other studies. Additionally, we discovered that back discomfort was more prevalent and more severe in rural residents. This may have been brought on by older residents of rural areas in these six countries engaging in more frequent and demanding outside household tasks such as transporting food or water, for example (Stewart Williams et al. 2015, p. 12)

Limitations

Successful research can take time to do it. I have to use a tiny sample size of 114 because I only have a limited amount of time to conduct the research. If a larger sample size was used, the results would be more accurate and suitable and would also provide a good understanding of the obstacles that patients suffer from low back pain. Only 114 samples don't adequately represent the many patients who visit the musculoskeletal unit at CRP. Given that this was the researcher's first study project, the supervisor and the respected teachers should be willing to overlook any errors.

CHAPTER-VI	CONCLUSION AND RECOMMENDATION

6.1 Conclusion

In the modern era, it is quite necessary to give treatment with evidence. So, evidence-based practice is the most valuable nowadays. Evidence-based practice is much needed in special physiotherapy. Because physiotherapists have more body contact than other professions. For this, if any malpractice occurs, the patients will suffer more suffers. Duration of pain, type of pain, position for increasing pain, doing the same work all day, working position, disturbing the work due to pain, the work which increases the pain is related to the disability which hampers the daily life and socio-demographic section of a patient.

From the point of view of the researcher, the socio-demographic section which is mentioned above is associated with the cause of disability. To create awareness and motivate people to work in the right posture, this disability can be minimized. Otherwise, the cost of the treatment is unbearable in developing countries like Bangladesh. In the study, we saw that urban people are more affected than rural areas. Low back pain affects the housewife more among the participants in this research. The pain like constant pain is very painful for the patients. So awareness plays a vital role in decreasing pain and disability. Because long-term pain leads a patient to disability.

Co-relation between pain and disability plays a vital role for the patients. In this research, we found that the duration of pain and disturbing work due to back pain is significant. So to control pain is also to control the disability.

So to create awareness among the people, to advise people to take treatment after affecting any pain immediately, control or maintain co-morbidities in a normal range, maintain the working position in a right posture, and modify the working environment to relieve pain and also disability. Because disease leads to disability

6.2 Recommendation

A large sample size of low back pain patients should be insured in future research**.** The researcher may run research not only in a specific unit or area but also throughout Bangladesh. Research should be conducted over a long time and large sample size to fulfill the purpose of the study.

REFERENCES

Abd Allah, ES, Abd Allah, MG & Abdel-Aziz, HR, 2021. Functional Disability and Its Influencing Factors among Elderly with Chronic Low Back Pain. *Zagazig Nursing Journal*, 17(2), pp.56-69.

Alamam, DM, Leaver, A, Alsobayel, HI, Moloney, N, Lin, J & Mackey, MG, 2021, 'Low Back Pain–Related Disability Is Associated with Pain-Related Beliefs Across Divergent Non–English-Speaking Populations: Systematic Review and Meta-Analysis', *Pain Medicine*, 22(12), pp.2971-2986.

Alhowimel, A, AlOtaibi, M, Radford, K, and Coulson, N, 2018, 'Psychosocial factors associated with change in pain and disability outcomes in chronic low back pain patients treated by physiotherapist: a systematic review', *SAGE open medicine*, 6, p.1-8.

Ammer, K, Ebenbichler, G, & Bochdansky, T, 2022, 'Low Back Pain—A Disease or Condition of Impaired Functional Health? Definition-Inherent Consequences for the Comprehensive Care of Back Pain Patients', *BioMed*, 2(2), pp.270-281.

Andersen, T.E, Karstoft, KI, Lauridsen, HH & Manniche, C, 2022. Trajectories of disability in low back pain. *Pain Reports*, 7(1), p. 1-7.

Arcanjo, FL, Martins, JVP, Moté, P, Leporace, G, de Oliveira, DA, de Sousa, CS, Saquetto, MB, & Gomes-Neto, M, 2022, 'Proprioceptive neuromuscular facilitation training reduces pain and disability in individuals with chronic low back pain: A systematic review and meta-analysis', *Complementary Therapies in Clinical Practice*, 46, p.101505.

Bahns, C, Happe, L, Thiel, C & Kopkow, C, 2021, ' Physical therapy for patients with low back pain in Germany: a survey of current practice', *BMC Musculoskeletal Disorders*, 22(1), pp.1-12.

Bardin, LD, King, p, & Maher, CG, 2017, 'Diagnostic triage for low back pain: a practical approach for primary care',. *Medical journal of Australia*, 206(6), pp.268-273.

Bartys, S, Frederiksen, P, Bendix, T & Burton, K, 2017, 'System influences on work disability due to low back pain: an international evidence synthesis', *Health Policy*, 121(8), pp.903-912.

Bento, TPF, Cornelio, GP, Perrucini, PDO, Simeão, SFAP, de Conti, MHS, & de Vitta, A, 2020, 'Low back pain in adolescents and association with sociodemographic factors, electronic devices, physical activity and mental health', *Jornal de pediatria*, 96, pp.717-724.

Bertuzzi, V, Semonella, M, Bruno, D, Manna, C, Edbrook-Childs, J, Giusti, EM, Castelnuovo, G & Pietrabissa, G, (2021), 'Psychological support interventions for healthcare providers and informal caregivers during the COVID-19 pandemic: a systematic review of the literature', *International Journal of Environmental Research and Public Health*, 18(13):6939

Billis, E, Koutsojannis, C, Matzaroglou, C, Gliatis, J, Fousekis, K, Gioftsos, G, Papandreou, M, McCarthy, C, Oldham, JA & Tsepis, E, 2017, 'Association of low back pain on physical, sociodemographic and lifestyle factors across a general population sample within Greece', *Journal of back and musculoskeletal rehabilitation*, 30(2), pp.279-290.

Buchbinder, R, van Tulder, M, Öberg, B, Costa, LM, Woolf, A, Schoene, M, Croft, P, Hartvigsen, J, Cherkin, D, Foster, NE & Maher, CG, 2018, 'Low back pain: a call for action', *The Lancet*, 391(10137), pp.2384-2388.

Chiarotto, A & Koes, BW, 2022, 'Nonspecific low back pain', *New England Journal of Medicine*, 386(18), pp.1732-1740.

Christe, G, Nzamba, J, Desarzens, L, Leuba, A, Darlow, B & Pichonnaz, C, 2021, 'Physiotherapists' attitudes and beliefs about low back pain influence their clinical decisions and advice', *Musculoskeletal science and practice*, 53, p.1-8.

de Brito Macedo, L, Richards, J, Borges, DT, Melo, SA & Brasileiro, JS, 2019, 'Kinesio taping reduces pain and improves disability in low back pain patients: a randomised controlled trial', *Physiotherapy*, 105(1), pp.1-12.

De Campos, TF, Maher, CG, Fuller, JT, Steffens, D, Attwell, S & Hancock, MJ, 2021, 'Prevention strategies to reduce future impact of low back pain: a systematic review and meta-analysis', *British journal of sports medicine*, 55(9), pp.468-476.

Fernández-Rodríguez, R, Álvarez-Bueno, C, Cavero-Redondo, I, Torres-Costoso, A, Pozuelo-Carrascosa, DP, Reina-Gutiérrez, S, Pascual-Morena, C & Martínez-Vizcaíno, V, 2022, 'Best exercise options for reducing pain and disability in adults with chronic low back pain: pilates, strength, core-based, and mind-body. a network meta-analysis', *journal of orthopaedic & sports physical therapy*, 52(8), pp.505-521.

Ferrari, S, Vanti, C, Pellizzer, M, Dozza, L, Monticone, M & Pillastrini, P, 2019, 'Is there a relationship between self-efficacy, disability, pain and sociodemographic characteristics in chronic low back pain? A multicenter retrospective analysis', *Archives of Physiotherapy*, 9, pp.1-9.

Frizziero, A, Pellizzon, G, Vittadini, F, Bigliardi, D & Costantino, C, 2021, 'Efficacy of core stability in non-specific chronic low back pain', *Journal of functional morphology and kinesiology*, 6(2), p.1-20.

García-Moreno, JM, Calvo-Muñoz, I, Gómez-Conesa, A & López-López, JA, 2022, 'Effectiveness of physiotherapy interventions for back care and the prevention of non-specific low back pain in children and adolescents: a systematic review and meta-analysis', *BMC musculoskeletal disorders*, 23(1), p.1-14.

Gardashkhani, S, Ajri-Khameslou, M, Heidarzadeh, M & Sedigh, SR, (2021), 'Post–Intensive Care Syndrome in Covid-19 Patients Discharged From the Intensive Care Unit', *Journal of Hospice and Palliative Nursing*, 23(6):530.

Ge, L, Pereira, MJ, Yap, CW & Heng, BH, 2022, 'Chronic low back pain and its impact on physical function, mental health, and health-related quality of life: a cross-sectional study in Singapore', *Scientific Reports*, *12*(1), p.1-10.

Gomes, MM, dos Santos Silva, SR & Padula, RS, 2023, 'Prevalence and factors associated with low back pain in warehouse workers: A cross-sectional study', *Journal of Back and Musculoskeletal Rehabilitation*, (Preprint), pp.823-829.

Hartvigsen, J, Hancock, MJ, Kongsted, A, Louw, Q, Ferreira, ML, Genevay, S, Hoy, D, Karppinen, J, Pransky, G, Sieper, J & Smeets, RJ, 2018, 'What low back pain is and why we need to pay attention', *The Lancet*, 391(10137), pp.2356-2367.

Hung, CI., Liu, CY & Fu, TS, 2015, 'Depression: an important factor associated with disability among patients with chronic low back pain', *The International Journal of Psychiatry in Medicine*, 49(3), pp.187-198.

Husky, MM, Ferdous Farin, F, Compagnone, P, Fermanian, C & Kovess-Masfety, V, 2018, 'Chronic back pain and its association with quality of life in a large French population survey', *Health and quality of life outcomes*, 16(1), pp.1-9.

Husted, M, Rossen, CB, Jensen, TS, Mikkelsen, LR & Rolving, N, 2020, 'Adherence to key domains in low back pain guidelines: a cross-sectional study of Danish physiotherapists', *Physiotherapy Research International*, 25(4), p.e. 1- 10.

Hutting, N, Oswald, W, Staal, JB & Heerkens, YF, 2020, 'Self-management support for people with non-specific low back pain: a qualitative survey among physiotherapists and exercise therapists', *Musculoskeletal Science and Practice*, 50, p.1-8.

Islam, S, 2022. *Barriers of receiving rehabilitation services for the patients attending at CRP* (Doctoral dissertation, Bangladesh Health Professions Institute, Faculty of Medicine, the University of Dhaka, Bangladesh).

Javed, S, Dawood, MH, Memon, MW, Selod, IZ & Seja, A, 2023, 'Prevalence of low back pain among medical doctors of the teaching hospitals in Karachi, Pakistan: A cross-sectional survey', *SAGE Open Medicine*, 11, p. 1-9.

Jia, N, Zhang, M, Zhang, H, Ling, R., Liu, Y, Li, G, Yin, Y, Shao, H, Zhang, H, Qiu, B & Li, D, 2022, 'Prevalence and risk factors analysis for low back pain among occupational groups in key industries of China', *BMC Public Health*, 22(1), p.1-10

Karstens, S, Kuithan, P, Joos, S, Hill, JC, Wensing, M, Steinhäuser, J, Krug, K & Szecsenyi, J, 2018, 'Physiotherapists' views of implementing a stratified treatment

approach for patients with low back pain in Germany: a qualitative study', *BMC health services research*, 18(1), pp.1-12.

Kim, S.K, Min, A, Jeon, C, Kim, T, Cho, S, Lee, SC & Lee, CK, 2020, 'Clinical outcomes and cost-effectiveness of massage chair therapy versus basic physiotherapy in lower back pain patients: a randomized controlled trial', *Medicine*, 99(12) pp. 1-6.

Koppenaal, T, Arensman, RM, Van Dongen, JM, Ostelo, RW, Veenhof, C, Kloek, CJ & Pisters, MF, 2020, 'Effectiveness and cost-effectiveness of stratified blended physiotherapy in patients with non-specific low back pain: study protocol of a cluster randomized controlled trial', *BMC Musculoskeletal Disorders*, 21(1), pp.1-13.

Longtin, C, Decary, S, Cook, CE, Martel, MO, Lafrenaye, S, Carlesso, LC, Naye, F & Tousignant-Laflamme, Y, 2021, 'Optimizing management of low back pain through the pain and disability drivers management model: A feasibility trial', *Plos one*, 16(1), p.1-21

Mahdavi, SB, Riahi, R, Vahdatpour, B & Kelishadi, R, 2021, 'Association between sedentary behavior and low back pain; A systematic review and meta-analysis', *Health promotion perspectives*, 11(4), p.393.

Maher, C, Underwood, M & Buchbinder, R, 2017, 'Non-specific low back pain', *The Lancet*, 389(10070), pp.736-747.

Malta, DC, Oliveira, MMD, Andrade, SSCDA, Caiaffa, WT, Souza, MDFMD & Bernal, RTI, 2017, 'Factors associated with chronic back pain in adults in Brazil', *Revista de Saúde Pública*, 51 p. 1-12.

Mescouto, K, Olson, RE, Hodges, PW & Setchell, J, 2022, 'A critical review of the biopsychosocial model of low back pain care: time for a new approach?', *Disability and Rehabilitation*, 44(13), pp.3270-3284.

Nie, XD, Wang, Q, Wang, MN, Zhao, S, Liu, L, Zhu, YL & Chen, H, (2021), 'Anxiety and depression and its correlates in patients with coronavirus disease 2019 in Wuhan', International Journal of Psychiatry in Clinical Practice, 25(2):109-114.

Ogunlana, MO, Odole, AC, Adejumo, A & Odunaiya, N, 2015, 'Catastrophising, pain, and disability in patients with nonspecific low back pain', *Hong Kong Physiotherapy Journal*, 33(2), pp.73-79.

O'Keeffe, M, O'Sullivan, P, Purtill, H, Bargary, N & O'Sullivan, K, 2020, 'Cognitive functional therapy compared with a group-based exercise and education intervention for chronic low back pain: a multicentre randomised controlled trial (RCT)', *British journal of sports medicine*, 54(13), pp.1-9.

Özdin, S. & Bayrak Özdin, Ş, (2020), 'Levels and predictors of anxiety, depression and health anxiety during COVID-19 pandemic in Turkish society: The importance of gender', International Journal of Social Psychiatry, 66(5):504-511

Palacios-Ceña, D, Albaladejo-Vicente, R, Hernández-Barrera, V, Lima-Florencio, L, Fernández-de-Las-Peñas, C, Jimenez-Garcia, R, López-de-Andrés, A, de Miguel-Diez, J & Perez-Farinos, N, 2021, 'Female gender is associated with a higher prevalence of chronic neck pain, chronic low back pain, and migraine: Results of the Spanish National Health Survey, 2017', *Pain Medicine*, 22(2), pp.382-395.

Payares, K, Lugo, LH & Restrepo, A, 2015, 'Validation of the Roland Morris questionnaire in Colombia to evaluate disability in low back pain', *Spine*, 40(14), pp.1108-1114.

Ruffilli, A, Neri, S, Manzetti, M, Barile, F, Viroli, G, Traversari, M, Assirelli, E, Vita, F, Geraci, G & Faldini, C, 2023, 'Epigenetic Factors Related to Low Back Pain: A Systematic Review of the Current Literature', *International Journal of Molecular Sciences*, 24(3), p.1854.

Schröder, K, Öberg, B, Enthoven, P, Kongsted, A & Abbott, A, 2020, 'Confidence, attitudes, beliefs and determinants of implementation behaviours among physiotherapists towards clinical management of low back pain before and after implementation of the BetterBack model of care', *BMC Health Services Research*, 20(1), pp.1-14.

Shipton, EA, 2018, 'Physical therapy approaches in the treatment of low back pain', *Pain and therapy*, 7, pp.127-137.

Shraim, M, Cifuentes, M, Willetts, JL, Marucci-Wellman, HR & Pransky, G, 2015, 'Length of disability and medical costs in low back pain', *Journal of occupational and environmental medicine*, 57(12), pp.1275-1283.

Stewart Williams, J, Ng, N, Peltzer, K, Yawson, A, Biritwum, R, Maximova, T, Wu, F, Arokiasamy, P, Kowal, P & Chatterji, S, 2015, 'Risk factors and disability associated with low back pain in older adults in low-and middle-income countries. Results from the WHO Study on Global AGEing and Adult Health (SAGE)', *PloS one*, 10(6), p. 1-21.

Sundell, CG, Bergström, E & Larsén, K, 2019, 'Low back pain and associated disability in Swedish adolescents', *Scandinavian journal of medicine & science in sports*, 29(3), pp.393-399.

Sundell, CG, Bergström, E & Larsén, K, 2019, 'Low back pain and associated disability in Swedish adolescents', *Scandinavian journal of medicine & science in sports*, 29(3), pp.393-399.

Tsuji, T, Matsudaira, K, Sato, H & Vietri, J, 2016, 'The impact of depression among chronic low back pain patients in Japan', *BMC musculoskeletal disorders*, 17, pp.1-9.

Urits, I, Burshtein, A, Sharma, M, Testa L, Gold, PA, Orhurhu, V, Viswanath, O, Jones, MR, Sidransky, MA, Spektor, B & Kaye, AD, 2019, 'Low back pain, a comprehensive review: pathophysiology, diagnosis, and treatment', *Current pain and headache reports*, 23, pp.1-10.

Vanti, C, Conti, C, Faresin, F, Ferrari, S & Piccarreta, R, 2016, 'The relationship between clinical instability and endurance tests, pain, and disability in nonspecific low back pain', *Journal of Manipulative and Physiological Therapeutics*, 39(5), pp.359-368.

Verburg, AC, Van Dulmen, SA, Kiers, H, Nijhuis-Van Der Sanden, MWG & Van Der Wees, PJ, 2019, 'Development of a standard set of outcome measures for non-specific low back pain in Dutch primary care physiotherapy practices: a Delphi study', *European Spine Journal*, 28, pp.1550-1564.

Wettstein, M, Eich, W, Bieber, C & Tesarz, J, 2019, 'Pain intensity, disability, and quality of life in patients with chronic low back pain: does age matter?', *Pain Medicine*, 20(3), pp.464-475.

Wong, CK, Mak, RY, Kwok, TS, Tsang, JS, Leung, MY, Funabashi, M, Macedo, LG, Dennett, L & Wong, AY, 2022, 'Prevalence, incidence, and factors associated with non-specific chronic low back pain in community-dwelling older adults aged 60 years and older: a systematic review and meta-analysis', *The journal of pain, 23(4),* pp.509-534.

Wu, A, March, L, Zheng, X, Huang, J, Wang, X, Zhao, J, Blyth, FM, Smith, E, Buchbinder, R & Hoy, D, 2020, 'Global low back pain prevalence and years lived with disability from 1990 to 2017: estimates from the Global Burden of Disease Study 2017', *Annals of translational medicine*, 8(6), pp.1-14.

Yamada, AS, Simon, D, Antunes, FTT, Say, KG & Souza, AHD, 2023. Psychosocial factors associated with disability in patients with non-specific chronic low back pain: A cross-sectional study. *Rehabilitación*, 57(2), p.1-10.

Consent Form

(Please read out to the participant)

Assalamu Alaikum,

I am **Md. Khorshed Alam Faisal**, 4th-year B.Sc in Physiotherapy student of **Bangladesh Health Professions Institute (BHPI)**. I am conducting research entitled **"Identify the Level of Disability among Patients with Low Back Pain"**. Low Back Pain is a very common disease in our country. The purpose of the study is to identify the level of disability among low back pain patients. To run this research, I need a participant who is suffering from low back pain. This research also focuses on the disability of low back pain patients. Your participation in this research is entirely voluntary. It is your choice whether to participate or not. Whether you choose to participate or not, all the services you receive at this hospital will continue and nothing will change. If you choose not to participate in this research project, you will be offered the treatment that is routinely offered in this hospital for low back pain. As I don't know the level of disability among the patients with low back pain. That's why I need information from you. It will take 20-30 minutes to take information from you. The information that I collect from this research project will be kept confidential. Information about you that will be collected during the research will be put away and no one but the researcher will be able to see it. Any information about you will have a number on it instead of your name. Only the researcher will know what your number is and I will lock that information up. It will not be shared with or given to anyone except myself. The knowledge that I get from doing this research will be shared with you through meetings before it is made widely available to the public. Confidential information will not be shared. After the meeting, I will publish the results so that other interested people may learn from my research.

You do not have to take part in this research if you do not wish to do so. You may also stop participating in the research at any time you choose and refusing to participate will

not affect your treatment at this hospital in any way. It is your choice and all of your rights will still be respected.

If you have any questions you may ask me now or later, even after the study has started. If you wish to ask questions later, you may contact me through my mobile number which is **01521437491**.

I have read the foregoing information or it has been read to me. I have had the opportunity to ask questions about it and any questions that I have asked have been answered to my satisfaction. I consent voluntarily to participate as a participant in this research.

Name of the participant _____

Signature of the participant _____

Date _____

সম্মতিপত্র

আসসালামু আলাইকুম,

আমি মোঃ খোরশেদ আলম ফয়সাল, বাংলাদেশ হেলথ প্রফেশন্স ইন্সটিটিউট (বিএচপিআই) এর বি এস সি ইন ফিজিওথেরাপি কোর্সের ৪র্থ বর্ষের একজন শিক্ষার্থী। আমি একটি গবেষণা পরিচালনা করছি যার নাম ' কোমর ব্যথায় ভোগা রুগীদের মধ্যে অক্ষমতার মাত্রা চিহ্নিত করন। কোমর ব্যথা আমাদের দেশে খুবই পরিচিত একটি রোগ। এই গবেষণার উদ্দেশ্য হলো কোমর ব্যথার রুগীদের মধ্যে অক্ষমতার মাত্রা চিহ্নিত করন। এই গবেষণা করার জন্য কোমর ব্যথায় ভুগছেন এমন রুগী প্রয়োজন। এই গবেষণা, কোমর ব্যথার কারনে অক্ষমতার উপর জোড় দিতেছে। এটি আপনার সিধান্ত আপনি এই গবেষণায় অংশগ্রহন করবেন কি করবেন না। যদি আপনি এই গবেষণায় অংশগ্রহন নাও করেন তাহলেও আপনার চিকিৎসায় কোনো ব্যাঘাত ঘটবে না। যেহেতু আমি রুগীদের মধ্যে কোমর ব্যথার কারনে অক্ষমতার মাত্রা জানি না তাই এই কারনে আপনার আকছ থেকে তথ্য দরকার। আপনার কাছ থেকে এসব তথ্য জানার জন্য ২০-৩০ মিনিট সময় দরকার। এই গবেষণার জন্য যেসব তথ্য আমি সংগ্রহ করবো সেগুলো গোপন থাকবে এবং আপনার নামের পরিবর্তে কোড নাম্বার থাকবে। শুধুমাত্র গবেষক এই তথ্যগুলো দেখতে পারবে এবং এই তথ্যগুলো আমি ছাড়া অন্য কারো সাথে আদান প্রদান হবে না। এই গবেষণা থেকে প্রাপ্ত জ্ঞান সর্ব সাধারনের কাছে প্রকাশ করার পূর্বে আপনার কাছে জানানো হবে। গুপনীয় বিষয়গুলো অন্য কারো সাথে আদান প্রদান করা হবে না। এই গবেষণার ফলাফল প্রকাশ করা হবে যাতে এই বিষয়ে আগ্রহী মানুষজন এখান থেকে শিখতে পারে।

যদি আপনি অনিচ্ছুক থাকেন তাহলে আপনি এই গবেষণায় অংশগ্রহণ নাও করতে পারেন। আপনি যেকোনো সময় এই গবেষণায় অংশগ্রহন করা থেকে বিরত থাকতে পারেন এবং এটি আপনাড় চিকিৎসায় কোনো প্রভাব ফেলবে না। আপনার সিধান্তকে সব সময় সম্মান জানানো হবে। এখন অথবা পরে যদি আপনার কোনো প্রশ্ন থাকে তাহলে আপনি ০১৫২১৪৩৭৪৯১ এই নম্বরে যেকোনো সময় যোগাযোগ করতে পারেন।

আমি উপরের তথ্যগুলো পড়েছি অথবা আমাকে পড়ে শুনানো হয়েছে। আমার সন্তুষ্টির জন্য প্রশ্ন করার সুযোগও রয়েছে। আমি সজ্ঞানে ও স্বেচ্ছায় এই গবেষণায় অংশগ্রহণ করতেছি।

অংশগ্রহণকারীর নামঃ _____

অংশগ্রহণকারীর স্বাক্ষরঃ _____

তারিখঃ _____

Questionnaire

(English)

Part I: Patient's Identification

Patient ID No:

Patient Name:

Part II: Socio-demographic Information

2.1 Age:_____

 2.2 Gender: Male_____   Female _____

2.3 Marital Status:

Unmarried	
Married	
Divorced	
Widow	

2.4 Educational Status:

Illiterate	
Primary	
SSC	
HSC	
Honors and above	

2.5 Family Type:

Nuclear Family	
Joint Family	

2.6 Living Area:

Rural	
Urban	

2.7 Occupation:

Office Worker	
Laborer	
Driver	
Housewife	
Unemployed	
Retired	
Student	
Others (specific)	

2.8 Family Income (per month):_____ Taka

Part III: Medical and Low Back Pain-related Information

3.1 Pain duration _____(months)

3.2 Pain pattern (i) Intermittent_____ (ii) Constant_____

3.3 Increase pain (i) Bending_____ (ii) Sitting_____ (iii) Standing_____   (iv) Walking_____ (v) Lying_____

3.4 Co-morbidities – DM, HTN, Asthma, Kidney disease, others (specific) _____

3.5 Do the same work all day? (i) Yes_____ (ii) No_____

3.6 Working Position_____

3.7 Is low back pain disturbing the working? (i) Yes_____ (ii) No_____

3.8 Low back pain increases for which type of work? _____

Part-IV: Questionnaires (RMDQ)

Serial Number	Question	Yes	No
1	I stay at home most of the time because of my back		
2	I change position frequently to try to get my back comfortable		
3	I walk more slowly than usual because of my back		
4	Because of my back, I am not doing any job that I usually do around the house		
5	Because of my back, I use a handrail to get upstairs		
6	Because of my back, I lie down to rest more often		
7	Because of my back, I have to hold on to something to get out of an easy chair		
8	Because of my back, I try to get other people to do things for me		
9	I get dressed more slowly than usual because of my back		
10	I only stand up for short periods of time because of my back		
11	Because of my back, I try not to bend or kneel down		
12	I find it difficult to get out of a chair because of my back		
13	My back is painful almost all of the time		
14	I find it difficult to turn over in bed because of my back		
15	My appetite is not very good because of my back		
16	I have trouble putting on my socks because of the		

	pain in my back			
17	I can only walk short distances because of my back pain			
18	I sleep less well because of my back			
19	Because of my back pain, I get dressed with the help of someone else			
20	I sit down for most of the day because of my back			
21	I avoid heavy jobs around the house because of my back			
22	Because of my back pain, I am more irritable and bad-tempered with people than usual			
23	Because of my back, I go upstairs more slowly than usual			
24	I Stay in bed most of the time because of my back			

প্রশ্নপত্র

(বাংলা)

প্রথম অংশঃ রুগী সনাক্তকরণ

রগীর আইডি নাম্বারঃ

রুগীর নামঃ

দ্বিতীয় অংশঃ সামাজিক জনসংখ্যা সংক্রান্ত তথ্য

২.১) বয়সঃ _____

২.২) লিঙ্গঃ   পুরুষ _____   মহিলা_____

২.৩) বৈবাহিক অবস্থাঃ

বৈবাহিক অবস্থাঃ	
অবিবাহিত	
বিবাহিত	
তালাকপ্রাপ্ত	
বিপত্মিক/ বিধবা	

২.৪) শিক্ষাগত যোগ্যতাঃ

অশিক্ষিত	
প্রাথমিক	
এস এস সি	
এইচ এস সি	
সম্মান বা ততোধিক	

২.৫) পরিবারের ধরনঃ

একক পরিবার	
যৌথ পরিবার	

২.৬) বসবাসের এলাকাঃ

গ্রাম	
শহর	

২.৭) পেশাঃ

অফিসকর্মী	
শ্রমিক	
ড্রাইভার	
গৃহিণী	
বেকার	
অবসরপ্রাপ্ত	
ছাত্রী	
অন্যান্ (নির্দিষ্ট করে)	

২.৮) পরিবারের আয় (প্রতি মাসে) _____

তৃতীয় অংশঃ মেডিকেল এবং কোমর ব্যথা সম্পর্কিত তথ্য

(১) ব্যথার সময়কাল _____(দিন)

(২) ব্যথার ধরণ (ক) সবসময় _____ (খ) মাঝেমাঝে _____

(৩) কোন অবস্থায় ব্যথা বাড়ে (ক) ঝুঁকলে_____ (খ) বসলে_____ (গ) দাঁড়ালে_____ (ঘ) হাঁটলে_____   (ঙ) শুয়ে থাকলে_____

(৪) অন্যান্য রোগঃ ডাইবেটিক্স, উচ্চ রক্তচাপ, এ্যাজমা, কিডনি রোগ, অন্যান্য (নির্দিষ্ট করে) _____

(৫) সারাদিন একই কাজ করেন? (ক) হ্যাঁ _____ (খ) না _____

(৬) কোন অবস্থায় কাজ করেন? _____

(৭) কোমর ব্যথার জন্য কাজ করতে সমস্যা হচ্ছে? (ক) হ্যাঁ _____ (খ) না _____

(৮) কোন ধরণের কাজ করলে কোমর ব্যথা হয়? _____

চতুর্থ অংশ: প্রশ্নাবলী

ক্রমিক নং	প্রশ্নাবলী	হ্যাঁ	না
১)	কোমরের কারনে আমি বেশিরভাগ সময় বাসায় থাকি		
২)	কোমরকে আরামদায়ক রাখার জন্য বারবার আমার অবস্থান পরিবর্তন করি		
৩)	কোমরের জন্য আমি স্বাভাবিকের চেয়ে ধীরে হাটি		
৪)	কোমরের জন্য বাড়ির সাধারণ কাজ গুলোও আমি করতে পারি না		
৫)	কোমরের জন্য সিঁড়ি দিয়ে উঠার সময় আমি সিঁড়ির হাতল ব্যবহার করি		
৬)	কোমরের জন্য বিশ্রামের বেশিরভাগ সময় আমি শুয়ে থাকি		
৭)	কোমরের জন্য চেয়ার থেকে উঠার সময় আমার কিছু ধরতে হয়		
৮)	কোমরের জন্য, অন্য লোকদের আমার কাজের জন্য বলি		
৯)	কোমরের জন্য আমি ধীরে ধীরে জামাকাপড় পরি		
১০)	কোমরের জন্য আমি অল্প সময় দাড়াতে পারি		
১১)	কোমরের জন্য আমি ঝুঁকতে বা হাঁটু গেড়ে বসতে পারি না		
১২)	কোমরের জন্য চেয়ার থেকে উঠা আমার জন্য কষ্টকর		
১৩)	আমার কোমরে প্রায় সবসময় ব্যথা থাকে		
১৪)	কোমরের কারনে আমার পাশ ফিরতে কষ্ট হয়		
১৫)	কোমরের কারনে আমার ক্ষুদা কমে গেছে		
১৬)	কোমর ব্যথার কারনে আমার মোজা পরতে সমস্যা হয়		

১৭)	কোমর ব্যথার কারনে আমি অল্প দূরত্বে হাঁটতে পারি		
১৮)	কোমরের কারনে আমার ঘুম কম হয়		
১৯)	কোমর ব্যথার কারনে জামাকাপড় পরতে আমার অন্যের সাহায্য লাগে		
২০)	কোমরের জন্য দিনের বেশিরভাগ সময় আমার বসে থাকতে হয়		
২১)	কোমরের জন্য বাড়ীর ভারী কাজ গুলো আমি এড়িয়ে চলি		
২২)	কোমর ব্যথার কারনে আমি স্বাভাবিকের চেয়ে অন্যের সাথে বদমেজাজি ও বেশি খিটখিটে আচারন করি		
২৩)	কোমরের জন্য সিঁড়ি দিয়ে উঠতে আমার বেশি সময় লাগে		
২৪)	কোমরের জন্য বেশিরভাগ সময় আমি বিছানাতেই থাকি		

Date: 16th February 2023
The Chairman
Institutional Review Board (IRB)
Bangladesh Health Professions Institute (BHPI), CRP
Savar, Dhaka-1343.Bangladesh

Subject: Application for review and ethical approval.

Dear Sir,

With due respect, I am Md. Khorshed Alam Faisal is a student in the B.Sc. in physiotherapy program at Bangladesh Health Professions Institute (BHPI) the academic institute of the Centre for the Rehabilitation of the Paralysed (CRP) under the Faculty of Medicine, University of Dhaka. As per the course curriculum, I have to conduct a dissertation entitled **"Identify the Level of Disability among the Patients with Low Back Pain."** under the supervision of Shazal Kumar Das, Lecturer, Department of Physiotherapy, BHPI.

The purpose of the study is to determine and identify the level of disability among patients with low back pain. The study involves a face-to-face interview using a semi-structured questionnaire to explore the identify the level of disability among the patients with low back pain at the Centre for the Rehabilitation of the Paralysed (CRP) that may take 20 to 30 minutes to fill in the questionnaire and there is no likelihood of any harm to the participants. Related information will be collected from the patients. Data collectors will receive informed consent from all participants and the collected data will be kept confidential.

Therefore, I look forward to having your kind approval for the dissertation proposal and to starting data collection. I can also assure you that I will maintain all the requirements for the study.

Sincerely,

Md. Khorshed Alam Faisal

Md. Khorshed Alam Faisal
4th Year B.Sc. in Physiotherapy
Session: 2017-2018 Student ID: 112170398
BHPI, CRP, Savar, Dhaka-1343, Bangladesh

Dissertation presentation date: 9th January 2023

Shofiq

Head, Department of Physiotherapy, BHPI

Md. Shofiqul Islam
Associate Professor & Head
Department of Physiotherapy
Bangladesh Health Professions Institute (BHPI)
CRP, Chapain, Savar, Dhaka-1343

Recommendation from the dissertation supervisor

Sudh

Shazal Kumar Das
Lecturer
Department of Physiotherapy, BHPI.

March 28, 2023

The Head of the Physiotherapy Department

Centre for the Rehabilitation of the Paralyzed (CRP)

Chaplain, Savar, Dhaka-1343

Through: Head, Department of Physiotherapy, BHPI

Subject: Seeking permission for data collection to conduct my research project.

Dear Sir,

With due respect and humble submission to state that I am **Md. Khorshed Alam Faisal**, student of 4th Professional B.Sc in Physiotherapy at Bangladesh Health Professions Institute (BHPI). According to the course curriculum, we have to conduct research for the partial fulfillment of our degree. My research project entitled **"Identify the level of Disability among the patients with Low Back Pain"** under the supervision of **Shazal Kumar Das**, Lecturer, Department of Physiotherapy, BHPI, CRP. So I need to take permission to collect data for my research project from the Musculoskeletal unit of the Physiotherapy Department, CRP-Savar. I would like to assure you that anything in my study will not be harmful to the participants.

I, therefore, pray and hope that you would be kind enough to grant my application & give me permission for data collection and oblige thereby.

Sincerely Yours

Md. Khorshed Alam Faisal

Md. Khorshed Alam Faisal

4th Professional B.Sc in Physiotherapy

Roll: 16, Session 2017-2018

Bangladesh Health Professions Institute (BHPI)

Forward
SKdk
28/3/23

Recommended
Shofi

Approved

28.03.2023
Md. Shofiqul Islam
Associate Professor & Head
Department of Physiotherapy
Bangladesh Health Professions Institute (BHPI)
CRP, Chapain, Savar, Dhaka-1343

Dr. Mohammad Anwar Hossain, PhD
Senior Consultant & Head
Physiotherapy Department
Associate Professor, BHPI
CRP, Savar, Dhaka-1343

Ref:

CRP/BHPI/IRB/03/2023/697

Date:

13/03/2023

To
Md. Khorshed Alam Faisal
B.Sc. in Physiotherapy
Session: 2017-2018, DU Reg. No: 8636
BHPI, CRP, Savar, Dhaka- 1343, Bangladesh

Subject: Approval of the dissertation proposal **"Identify the Level of Disability among the Patients with Low Back Pain"** by the ethics committee.

Congratulations
Dear
Md. Khorshed Alam Faisal,
The Institutional Review Board (IRB) of BHPI has reviewed and discussed your application to conduct the above-mentioned dissertation, with you, as the Principal Investigator Shazal Kumar Das, Lecturer, Department of Physiotherapy, BHPI as dissertation supervisor. The following documents have been reviewed and approved:

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

The purpose of the study is to determine and identify the level of disability among the patients with low back pain. Should there be any interpretation, type, spelling, or grammatical mistakes in the title, it is the responsibility of the investigator. Since the study involves a questionnaire that takes a maximum of 20- 25 minutes and has no likelihood of any harm to the participants, the members of the Ethics committee approved the study to be conducted in the presented form at the meeting held at 09:00 AM on January 9, 2023, at BHPI, 34th IRB Meeting.

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 under the Nuremberg Code 1947, the World Medical Association Declaration of Helsinki, 1964 - 2013, and other applicable regulations.

Best regards,

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

সিআরপি-চাপাইন, সাভার, ঢাকা-১৩৪৩, বাংলাদেশ । ফোন: +৮৮ ০২ ২২৪৪৪৫৪৬৪-৫, +৮৮ ০২ ২২৪৪৪১৪০৪, মোবাইল: +৮৮ ০১৭৩০ ০৫৯৬৪৭
CRP-Chapain, Savar, Dhaka-1343, Bangladesh. Tel: +88 02 224445464-5, +88 02 224441404, Mobile: +88 01730059647
E-mail : principal-bhpi@crp-bangladesh.org, Web: bhpi.edu.bd

76