Faculty of Medicine

University of Dhaka

MUSCULOSKELETAL PAIN DISORDER PATIENTS' ADHERENCE TO PHYSIOTHERAPY TREATMENT AT CRP, SAVAR

By

Abu Sufian

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

DU Roll No: 831

Registration No: 6859

Session: 2016-2017

Department of Physiotherapy

Bangladesh Health Professions Institute (BHPI)

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Submitted in Partial Fulfillment of the Requirements for the Degree of Bachelor of Science in Physiotherapy

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

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Submitted by **Abu Sufian,** for the partial fulfillment of the requirement for the degree of the Bachelor of Science in Physiotherapy (B.Sc. in PT)

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Declaration

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

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List of Abbreviations

ACDS	The Adherence in Chronic Diseases Scale
BASFI	The Bath Ankylosing Spondylitis Functional Index
BASDAI	The Bath Ankylosing Spondylitis Disease Activity Index
CPMP	Chronic Primary Musculoskeletal Pain
CRP	Centre for the Rehabilitation of the Paralysed
GBD	Global Burden of Disease
HBPT	Home-Based Physical Therapy
HBEP	Home-Based Exercise Program and
LBP	Low Back Pain
MSDs	Musculoskeletal Disorders
MSK	Musculoskeletal
OA	Osteoarthritis
PT	Physiotherapy
RA	Rheumatoid Arthritis

Abstract

Background: Musculoskeletal disorders (MSDs) are diseases or pain in the musculoskeletal system of the human body, which consists of the joints, ligaments, muscles, nerves, tendons, and structures that support the limbs, neck, and back. MSDs can be the result of a quick exertion (e.g., lifting a large object), repetitive strain, or constant exposure to force, vibration, or awkward posture. **Objectives:** To determine musculoskeletal pain disorder patients' adherence to home-based physiotherapy program in the outpatient musculoskeletal department at CRP, Savar. **Methodology:** The cross-sectional study was chosen to carry out this study among 200 participants who were selected according to inclusion criteria. The Adherence in Chronic Diseases Scale (ACDS) were used to assess the adherence level to physiotherapy treatment among 200 participants. The study was conducted by using quantitative descriptive analysis. **Results:** Among 200 participants, most of the participants were "medium adherent" to physiotherapy treatment 46.0% (n=92), 39.0% (n=78) were "high adherent" and 15.0% (n=30) were "low adherent". Although this study found a significant association between age and adherence to physiotherapy treatment; marital status and adherence to physiotherapy treatment; timely arrival for physiotherapy treatment and adherence to physiotherapy treatment. **Conclusion:** Musculoskeletal (MSK) pain problems are the second most prevalent cause of disability globally, and their prevalence is growing daily. This research showed that patients were "medium adherent" to home-based physiotherapy program.

Key words: Musculoskeletal pain, Adherence, Physiotherapy treatment.

Word count: 9132

CHAPTER -I INTRODUCTION

1.1 Background

According to the IASP, pain is defined as an unpleasant sensory and emotional experience associated with or resembling actual or potential tissue injury (Raja et al., 2020). The International Association defines primary Musculoskeletal Pain (CPMP) for the Study of Pain (IASP) as chronic pain in the joints or tendons associated with severe mental anguish (i.e., concern; anger; impatience; and a sad mood) or functional impairment (Koechlin et al., 2019).

Musculoskeletal disorders (MSDs) are diseases or pain in the musculoskeletal system of the human body, which consists of the joints, ligaments, muscles, nerves, tendons, and structures that support the limbs, neck, and back. MSDs can be the result of a quick exertion (e.g., lifting a large object), repetitive strain, constant exposure to force, vibration, or awkward posture (Kumar, 2001).

Acute or chronic musculoskeletal pain is a medical and social issue that affects people worldwide. The pain of musculoskeletal (MSK) illnesses is a major medical and economic problem (Smith et al., 2014). About 35% of the general population suffers from chronic musculoskeletal pain, making it a serious public health concern in most developed countries. However, it is usually a clinical issue when pain continues past the expected time of recovery, and there are no identifiable pathological findings in bones, joints, or muscles as a result of a musculoskeletal disease process (Bergman et al., 2001).

Musculoskeletal (MSK) discomfort has a substantial impact on an individual's quality of life. Individuals with musculoskeletal and connective tissue diseases seek medical treatment, take nonsteroidal anti-inflammatory medications, and undergo joint replacement surgery due to this pain. The most prominent MSK disorders include osteoarthritis (OA), autoimmune inflammatory arthritis, such as rheumatoid arthritis (RA), crystal-induced inflammatory arthritis, such as gout, and fibromyalgia. Chronic pain is the most frequent symptom of many MSK illnesses, regardless of the precise diagnosis. There have been

relatively few studies of pain across MSK diseases, but the available data suggests there are more similarities than differences (Hawker, 2017).

Chronic musculoskeletal pain is a significant public health issue that affects approximately one-third of the adult population. A biological approach may be insufficient when pain is evident without musculoskeletal system findings. A biopsychosocial approach could provide a deeper comprehension of symptoms and new management goals. Identification of chronic disease risk factors is crucial for prevention and early intervention (Bergman, 2007).

It is commonly known that pain-relieving peptides inhibit the nerve cell or synapse on which they act through presynaptic or postsynaptic inhibition, respectively. Peptides inhibit calcium ion entrance at the presynaptic level, resulting in a decrease in presynaptic neurotransmitter release. Additionally, peptides augment potassium ion efflux, resulting in hyperpolarization of postsynaptic neurons and a reduction in synaptic transmission. These cellular mechanisms result in a partial or total block of synaptic transmission of nociceptive impulses in the neural pathway (Macedo et al., 2009).

Beliefs about the body and pain significantly influence behavioral and emotional reactions to musculoskeletal pain. How incapacitated a person will be by musculoskeletal pain is influenced by their beliefs and responses to pain. Importantly, beliefs are malleable and are therefore seen as an essential treatment target for pain-related impairment. All patients presenting with musculoskeletal discomfort should address problematic beliefs as the first line of treatment, according to clinical recommendations (Caneiro et al., 2021).

Musculoskeletal pain is a difficult illness for both patients and doctors to treat. Regardless of age, gender, or socioeconomic situation, most persons suffer at least one episode of musculoskeletal pain. Approximately 47 percent of the overall population is affected. Approximately 39–45% of these individuals have persistent issues requiring medical advice. Musculoskeletal discomfort that is inadequately controlled can negatively impact the quality of life and cause substantial socioeconomic issues (El-Tallawy et al., 2021).

Musculoskeletal disorders are substantially more common in females than in males. In general, one may assume that the physical strength gap between men and women could

account for this gender imbalance. White-collar positions often have a minimal physical workload and are where the gender gap is most noticeable. Therefore, a more likely explanation is that women frequently work in demanding, emotionally taxing, boring, and repetitive jobs, where there is a high risk of developing neck and shoulder disorders. Numerous studies have demonstrated that an individual's physical traits do not appear to be a reliable indicator of future pain conditions (Laaksonen et al., 2010).

All patients who complain of pain should have a thorough medical history taken to determine the nature, severity, functional impact, and context of their symptoms. As a result of this, doctors will be able to identify patients suffering from chronic pain and choose the most effective treatment alternatives. Improved disability because of pain may be a more important aim for MSK patients because of the difficulty in controlling pain hence disability-related metrics for quality-of-life assessments may be more significant for these patients (El-Tallawy et al., 2020).

Even though more people live longer than ever before, the quality of their lives in terms of physical fitness has not kept pace, increasing the number of ailments. The incidence of musculoskeletal discomfort has increased as a result of the rise in the number of individuals who suffer from musculoskeletal discomfort and their ability to work (Hurwitz et al., 2018).

During the statewide lockdown imposed by the government of Bangladesh as a result of the coronavirus, several adjustments were made to the overall activities and way of life. Most individuals adopt a sedentary lifestyle, spending more time on their phones, watching television, and sleeping excessively. Reduction in the physical exercise had a devastating effect on musculoskeletal health (Ahmed et al., 2021).

Spinal disorders, particularly low back pain, affect many people and harm workability and general health. Low back discomfort frequently results in a substantial reduction in physical and mental fitness, as well as a decline in the performance of social responsibilities, such as employment and family obligations (Manchikanti et al., 2014).

Physical activity is an important aspect of rehabilitation for patients with musculoskeletal discomfort. Activity therapy is a management strategy involving aerobic exercise, muscle

strengthening, flexibility training, and stretching. Although the benefits of therapeutic exercise on pain are not fully understood, it is frequently used to treat a wide range of painful musculoskeletal diseases, including low back pain (LBP), shoulder pain, neck pain, and patellofemoral pain syndrome, and osteoarthritis. In addition to its impacts on function and health, therapeutic exercise alleviates pain. The majority of systematic reviews, including patients with musculoskeletal problems, indicate that exercise therapy reduces pain and improves functionality (Gross et al., 2007).

Chronic musculoskeletal pain continues to provide a formidable obstacle for doctors and researchers. The benefits of exercise therapies are well-established and are the cornerstone of treatment for musculoskeletal pain disorders. Currently, the precise processes underlying this effect on musculoskeletal pain remain unknown. Little is known about the appropriate dose and type of exercise, and the behavior and beliefs of therapists and patients regarding pain during exercise are frequently neglected in exercise prescription. Exercise-based treatments may be promising, although effect sizes are still small to moderate, and exercise recommendations vary widely (Smith et al., 2019).

1.2 Justification of the study

There are around 150 distinct musculoskeletal illnesses. The GBD provides particular health estimates for hip and knee osteoarthritis, rheumatoid arthritis, back and neck discomfort, gout, and additional musculoskeletal conditions. The "other" category relates to various autoimmune, inflammatory, joint, ligament, tendon, and muscle problems that differ amongst epidemiologic research. The burden of disease has not been evaluated for osteoporosis as a disease, but fractures caused by falls attributable to low bone mass (Sànchez-Riera et al., 2014).

In this situation, there was a shortage of information to assist physiotherapists in MSK practice in accomplishing several treatment adherence enhancing goals, such as the identification and mitigation of barriers, interventions for improving nonadherence, and outcome measures for assessing adherence. A study suggests that it would be advantageous to design an educational intervention to increase PTs' knowledge and awareness of nonadherence in MSK physiotherapy. It is predicted that this technique will encourage a paradigm shift in the PT perspective that supports addressing barriers with patients in

detail, tailoring therapies to the needs of the patient, and evaluating adherence in clinical practice. Significant findings from adherence studies have not been widely integrated into MSK physical therapy practice, and knowledge transfer in this area has been quite low (Essery et al., 2016). The study will explore adherence of patients with musculoskeletal pain syndromes to home-based physiotherapy exercise program.

1.3 Operational definitions

Adherence: Adherence indicates "sticking" or "faithfulness." Adherence is the act of clinging to something, whether symbolically or physically. A image adhered to the wall with double-sided tape illustrates adhesion.

Physiotherapy treatment: As an approach to healing, physiotherapy helps people improve their physical health by focusing on the science of movement. Physiotherapists assist people in regaining or enhancing their physical strength, function, motion, and general well-being.

Musculoskeletal Pain: Pain that is felt in the muscles, bones, ligaments, tendons, and nerves is referred to as "musculoskeletal pain." You might just experience the discomfort in one particular part of your body, like your back, for example. It is also possible to have the condition all over your body if you suffer from a widespread condition like as fibromyalgia. The pain can range from being very bearable to being so intense that it makes it difficult to go about your normal activities. Pain that comes on abruptly and lasts for only a short time is referred to as acute pain. Chronic pain is associated with pain that lasts for more than three to six months continuously.

The Adherence in Chronic Diseases Scale (ACDS): There are seven questions on the Adherence Scale for Chronic Diseases, each of which has five possible answers. Three levels of compliance were considered: low, medium, and high (scores ranging from 0 to >26). The questionnaire's validation was carried out in accordance with the method.

1.4 Aim of the study

To identify musculoskeletal pain disorder patients' adherence to home-based physiotherapy exercise program at CRP musculoskeletal physiotherapy outpatient department.

1.5 Objectives of the study

1.5.1. General Objective

To determine musculoskeletal pain disorder patients' adherence to home-based physiotherapy exercise program at CRP musculoskeletal physiotherapy outpatient department.

1.5.2. Specific objectives:

- To find out pain related information of participants.
- To determine the adherence rates among the participants.
- To know about any association between variables i.e., socio demographic information and adherence to home-based physiotherapy exercise program; clinical information and adherence to home-based physiotherapy exercise program.

CHAPTER-II LITERATURE REVIEW

In the case of musculoskeletal pain, it is believed that many recurrent or persistent instances may be prevented if patients adhere to their treatment regimens. Despite evidence supporting the efficacy of exercise and advice in the management of chronic musculoskeletal pain, high recurrence rates of musculoskeletal pain are well documented; therefore, it would appear that there are significant barriers to compliance and thus to the prevention of recurrence (Kolt and McEvo, 2003).

A systematic review was done in which combinations of key terms related to physical therapies, adherence, and predictors were used to search eight online databases. Records that matched the eligibility criteria were screened, and 30 quantitative articles were chosen based on their quality. Relevant data was pulled out, and findings from different studies were put together using "narrative synthesis." There was pretty strong evidence that intention to do the HBPT, self-motivation, self-efficacy, previous adherence to exercise-related behaviors, and social support all predicted adherence to HBPTs (Essery et al., 2016).

Two recent systematic reviews in this field looked at factors related to interventions that are linked to HBPT adherence. The included studies don't always look directly at the links between adherence and specific potential predictors. In one of these reviews, both the intervention and specific individual factors were examined. But this review only looked at home exercise adherence in people with chronic low back pain, so it's not clear if these results are true for HBPTs. Even though the other looked at a wider range of HBPTs, it focused mostly on factors related to the intervention. So, it wasn't always clear which part of the interventions was linked to adherence or whether, for example, any effect on adherence could have been caused by nonspecific effects of the interventions (Bishop et al., 2014).

In a study, people were put into either an intensive prevention program or a counseling group by chance. Among the most important parts of the program were physical exercise in small groups, lectures, and exercises to do at home. The average number of people who

kept coming back was 58% in the physical exercise groups, 25% in the psychosocial groups, and 33% in the lecture groups. Few feelings of loneliness and good physical function were important predictors of group participation in active physical exercise (Sjösten et al., 2007).

A review of the research revealed that there is strong evidence for the effect of physical (level of physical activity, in-treatment adherence, exercise in the past weeks), psychological (self-efficacy, depression, nervousness, helplessness), socio-demographic (social help, barriers to exercise), and clinical (exercise-related pain) barriers in physiotherapy outpatient clinics (Jack et al., 2010).

A review of 16 studies with a total of 4047 people found that self-efficacy and depression were the best predictors of how well people would do with self-management interventions for chronic musculoskeletal pain (irrespective of the intervention). The strongest mediators, or factors that may explain how different treatments may work, were less pain exaggeration and more physical activity (Miles et al., 2011).

A study presents an overview of the things that make it hard to stick with a treatment plan. There was strong evidence that low levels of physical activity at the start of the study (4 trials, 728 participants) or in the weeks before that (2 trials, 883 participants), low self-efficacy (6 trials, 1296 participants), anxiety (4 trials, 1367 participants), anxiety (2 trials, 159 participants), worthlessness (2 trials, 792 participants), poor social support or action (6 trials, 2286 participants), a greater number of perceived barriers to exercise (3 trials, 857 participants), and an increase in the number of barriers to exercise (3 There was also strong evidence that low exercise adherence during treatment (3 trials, 287 people) was a barrier to exercise adherence in the long term. There was mixed evidence that older age and more pain at the start of treatment made it harder to stick with the treatment. There wasn't much evidence for a number of other variables, and only one good study supported each of them (Schoo et al., 2005).

A Systematic reviews and Meta-Analyses that were used in eleven randomized controlled trials with a total of 1,088 people met the criteria for inclusion. There was only moderate evidence for one patient-specific subfactor and three intervention-specific subfactors that were linked to more home exercise. Priority should be given to making a valid measure of

adherence. This is the first systematic review to look at how often people with chronic low back pain do the exercises they are told to do at home (Beinart et al., 2013).

A systematic review looked at 42 studies with a total of 8,243 people. Due to the high heterogeneity of the data, meta-analytic statistical procedures were not used. Instead, qualitative methods like counting positive adherence outcomes were used. This may have hurt the validity of the results. Also, only 43% of the studies had a positive effect on adherence, which suggests that interventions have only a small effect on adherence so far. Lastly, the use of multiple interventions in each study made it hard to figure out which strategies work, and the different ways that follow-up outcome assessment was done made it hard to figure out how these strategies affected long-term adherence. So, you should be careful about drawing firm conclusions about which strategies work best based on this study (Jordan et al., 2010).

A meta-analysis from 2015 identified twenty qualifying papers. The effects of exercise treatments on the body mass index (BMI) are insignificant, but they can enhance physical fitness and other cardiometabolic risk factors. Interventions involving roughly 90 minutes of moderate-to-vigorous exercise per week effectively reduced psychiatric symptoms. It was also shown that this quantity of exercise improved functioning, co-morbid diseases, and cognition (Firth et al., 2015).

Six of the ten randomized controlled trials in a 2012 systematic review focused on the utilization of aerobic and strength training. Several yoga practices were also examined in two of these investigations. Progressive muscle relaxation has been the subject of four different investigations. Psychological distress and health-related quality of life can be improved through aerobic exercise, as can short-term memory and state anxiety and psychological distress through progressive muscle relaxation. There is also evidence that physical training therapy, in general, is beneficial in the multidisciplinary treatment of people with schizophrenia (Vancampfort et al., 2012).

A meta-analysis from 2015 examined the function of exercise in patients with knee osteoarthritis. Data from 44 studies (3,537 participants) demonstrate that therapeutic exercise produces short-term benefits such as reduced pain, enhanced physical function, and quality of life. In addition, 12 included trials included 2- to 6-month data on 1468

participants, demonstrating that the pain-relieving and physical function-improving effects of therapy are durable. Individually administered programs tended to produce higher reductions in pain and improvements in physical function than group-based or home-based exercise regimens (Fransen et al., 2015).

A meta-analysis from 2014 focused on knee osteoarthritis and included 48 randomized controlled trials and 4028 individuals. Aerobic, resistance, and performance exercise all had comparable effects on pain reduction. Single-type exercise regimens were more effective than programs that incorporated many types of exercise. The efficacy of aerobic exercise on pain alleviation improved as the number of supervised sessions increased. More pain reduction occurred with quadriceps-specific exercise than with lower limb exercise, and at least three times per week with supervision. There was no correlation between intensity, duration of individual sessions, or patient characteristics. Similar findings were obtained regarding the effect on patient-reported disability. The authors believe that knee osteoarthritis exercise programs should have a singular focus on enhancing aerobic capacity, quadriceps muscular strength, or lower extremity performance (Juhl et al., 2014).

Since 1995, 80 articles have been published on patient adherence to physiotherapist-prescribed self-management techniques, according to a comprehensive literature search. A critical study of patient adherence in physiotherapy research is required since an accurate evaluation of treatment results cannot be reported without an assessment of patient adherence (Peek et al., 2015).

A Danish study recruited women aged 70 to 90 with a recent history of falling. The patients were randomly assigned to either a control group (n = 33) or a training group (n = 32), which participated in a 6-month training program that included moderate strength training and balance exercises twice per week. The training improved muscular strength, extension/flexion of the upper body, walking speed, and equilibrium. This advancement was still visible six months following the intervention (Beyer et al., 2007).

A 2010 Cochrane Review, which updates a 2003 review, examined whether physical training has a substantial influence on working capacity, as measured by sick leave rates. The study comprised 23 randomized controlled studies with a total of 3,676 participants. Physical exercise had no influence on the rate of sick leave among individuals with acute

back pain. The results were less obvious for patients with subacute back pain; nonetheless, a subgroup analysis suggested that physical training in the workplace has a positive effect. When the results of five research are combined, it is determined that physical training has some effect on people with persistent back pain. The combination of physical training and cognitive treatment was not more effective than physical training alone in lowering pain and sick leave rates (Schaafsma et al., 2010).

A meta-analysis from 2015 assessed the efficacy of home-based exercise interventions for AS patients. Included were studies that examined the Bath Ankylosing Spondylitis Disease Activity Index (BASDAI), the Bath Ankylosing Spondylitis Functional Index (BASFI), depression, and pain. There were a total of six studies with 1098 people included in the study. Home-based exercise therapies significantly decreased BASFI scores (MD = 0.39, 95 percent CI: 0.57, 0.20, P = 0.001), BASDAI scores (MD = 0.50, 95 percent CI: 0.99, 0.02, P = 0.04), and depression ratings (MD = 2.31, 95 percent CI: 3.33, 1.50, P = 0.001), according to meta-analyses. Thus, home-based exercise therapies can successfully improve patients' health-related quality of life (Liang et al., 2015).

There are seven questions on the Adherence Scale for Chronic Diseases, each of which has five possible answers. Three levels of compliance were considered: low, medium, and high (scores ranging from 0 to >26). The questionnaire's validation was carried out in accordance with the method (Buszko et al., 2016).

According to worldwide and Swedish studies, the prevalence of chronic pain in the musculoskeletal system varies from 11 to 50 percent among populations. This discrepancy is partially attributable to discrepancies in the definition and estimation methodologies of chronic pain. This is especially true for reports on chronic widespread MSK pain and the subgroup known as fibromyalgia syndrome, FM. Cromie et al. (2000) reported that up to 91 percent of physiotherapists experience work-related musculoskeletal disorders during the course of their careers, with more than 80 percent experiencing symptoms in at least one body area within a 12-month period.

A detailed search of eight electronic databases between January 1995 to November 2014 was done. A total of eighty related papers were found. 49 quantitative non-intervention and intervention study designs were subjected to methodological evaluation, with only 14 studies (29 percent) deemed to be of at least moderate quality. Five of the 49 included studies (10 percent) reported statistical evidence to support the accuracy of the adherence measures used. Fifty-three different measures of patient adherence were documented from the 49 included research. Despite the recent trend toward intervention-based studies and reviews, the results show that the methodological quality of patient adherence studies might be enhanced. For future studies incorporating patient adherence to physiotherapist-prescribed self-management techniques, accurate and standardized measurements of patient adherence are necessary (Peek et al., 2015).

In a systematic review, 58 papers reporting 61 distinct measures, including 29 questionnaires, 29 logs, two visual analog scales, and one tally counter, were considered. Only two measures scored positively for a particular psychometric feature (content validity). The bulk of measures lacked validity and reliability testing documentation. The findings reveal a deficiency in the scientific literature for well-developed measures of self-reported adherence to recommended but unsupervised home-based rehabilitation exercises (Bollen et al., 2014).

A 2010 meta-analysis of 40 research concludes that physical exercise reduces anxiety symptoms in individuals with chronic diseases, such as cardiovascular disease, fibromyalgia, multiple sclerosis, mental disorders, cancer, and chronic obstructive pulmonary disease (Herring et al., 2010).

An American study investigates the correlation between physical fitness and mental health. The 5451 adult participants (20–88 years old) in the study underwent a treadmill test to measure their fitness level and a questionnaire enquiring about their participation in leisure and sports activities during the previous three months. The mental state of the participants was assessed using questionnaires that inquired about the presence of depressive symptoms. The subjects were divided into three different groups based on their fitness levels as determined by the treadmill test. The respondents were then separated into four further groups based on their self-reported engagement in regular physical activity

(inactive, insufficiently active, sufficiently active, and very active). The study revealed that those with greater physical fitness and physical activity had fewer depressive symptoms. Additionally, a correlation was discovered between physical fitness and general mental health (Galper et al., 2006).

The majority of elderly individuals with musculoskeletal discomfort who reside in nursing homes are sedentary throughout the day. Therefore, a systematic review examined the effect of the environment on their level of physical activity. Three hundred twenty-six studies were deemed possibly relevant, and 24 of these met all inclusion criteria. The effects of music, a homelike setting, and functional improvements on the physical activity levels of residents were positive (Anderiesen et al., 2014).

A meta-analysis from 2010 included only research on patients with chronic, non-specific low back pain. Physical training has a substantial long-term benefit compared to no exercise or conventional treatment (OR: 0.66, 95 percent CI: 0.48–0.92), but no short-term effect (OR: 0.80, 95 percent CI: 0.51–1.25), according to an analysis of 20 randomized controlled studies. Physical training as an intervention had modestly beneficial long-term benefits on working capacity as measured by absence from work, according to the analysis. However, it was not able to determine the most effective form of physical exercise (Oesch et al., 2010).

The latter study concurred with a 2008 Cochrane Review that examined the effect of physical activity on lumbar mobility using 11 studies and 751 patients. It was discovered that (a) individual, supervised training programs conducted at home were superior to no intervention; (b) supervised group physiotherapy was superior to home exercises; and (c) combined training in a spa augments the efficacy of group physiotherapy (Dagfinrud et al., 2008).

Several meta-analyses (Schaafsma et al., 2010) suggest that physical exercise is ineffective for treating acute low back pain. The exercise therapy based on the McKenzie technique consists of the therapist allowing the patient to repeat specific motions in order to determine the movement direction that lowers or centralizes symptoms. These exercises can be used to evaluate individuals in the acute phase. Based on these chosen motions, a personalized program is designed. In the meta-analysis (van Tulder et al., 2000), the effects of stretching

and flexing exercises are reported in ten research, seven of which are based on the McKenzie method. Although various studies have reported a definite effect, the overall evidence regarding the short- and long-term effects on pain is extremely scant.

CHAPTER–III METHODOLOGY

3.1 Study design

A cross sectional study was chosen to conduct the study. It is the simplest variety of descriptive or observational epidemiology and also known as surveys are a useful way to gather information on important health-related aspects of people's knowledge, attitudes, and practices. A survey is a research technique, which involved collecting data from a large number of people, so that a general overview of the group could be obtained.

3.2 Study site

The study was conducted at Musculoskeletal Unit, Centre for rehabilitation of the paralyzed (CRP) at Savar, Dhaka.

3.3 Study population

All the musculoskeletal pain patient attended in CRP musculoskeletal unit is considered as the study population.

3.4 Sampling technique

The study was conducted by using convenience sampling method because it is easier to get subjects according to the criteria concerned with the study purpose through the convenience sampling procedure.

3.5 Sample size

A sample size is a subset of the entire population. Depending on the characteristics of the population and the nature of the study, the sample size may be large or small.

The formula for estimating sample size of cross-sectional study is:

$$n = \frac{z2pq}{d2}$$

$$= \frac{(1.96)2\times 0.245\times(1-0.245)}{(0.05)2}$$

$$= 284.2$$

Here,

Z (confidence interval) = 1.96

P (prevalence) = 0.245% (Okezue et al., 2019)

And, q= (1-p)

= (1-0.245)

= 0.755

According to this equation sample size was 284.2, but 200 sample was taken.

3.6 Study period

This study was started from October 2021 with protocol preparation and has finished with submission of final report in September 2022. Research data collection was completed from the month of April 2022 to May 2022.

3.7 Inclusion criteria

- Age range between 20 to 60 years (Friedrich et al., 1998).
- Male and female both were included.
- Patient who has receiving physiotherapy treatment at least 6 sessions from CRP musculoskeletal unit (Hopewell et al., 2021).
- The patients who had shown willingness to participate were included.

3.8 Exclusion criteria

- Stop home exercise by physiotherapist's instruction (Medina-Mirapeix et al., 2009).
- Refusal to give informed consent.
- Unable to attend all sessions of physiotherapy (Medina-Mirapeix et al., 2009).
- People who were suffering from musculoskeletal pain with serious pathological diseases e.g., tumors, tuberculosis etc.

3.9 Materials of Data Collection

Paper, pen, board. Data was collected by using The Adherence in Chronic Diseases Scale (ACDS). The Adherence in Chronic Diseases Scale (ACDS) is a recently created and validated technique for assessing adherence in individuals with chronic illness. The ACDS has thus far been administered to relatively modest patient populations.

3.10 Data collection procedure

The researcher stated at the beginning that participants had the option to decline answering any item on the questionnaire. Any moment they wanted; they were free to leave the study. The researcher also stated the purpose of the study to all participants. It was made clear to participants that any personal information they provided would not be released to the public. The researcher obtained written agreement from each volunteer participant using a consent form. Following participant permission, a standard questionnaire was utilized to detect complaints and collect demographic data. The questions were posed in the Bangla format. The researcher did a face-to-face interview and asked questions to conduct the interview. Physical environment was closely considered. To ensure the interviewee's undivided attention, distraction-causing stimuli were eliminated. As far as feasible, the

interviewee was asked questions alone with their cooperation, as sometimes close relatives could influence their responses. During the interview, the researcher created rapport and clarified questions. Face-to-face interviews are the most effective technique to obtain the full cooperation of a survey participant. Face-to-face interviews are also effective for describing population characteristics. Face-to-face interviews were done to collect data that descriptively characterizes the population during conversation. In accordance with the participants' degree of comprehension, the questions were occasionally posed in the patients' native tongue so that they could comprehend them properly and respond accurately.

3.11 Data analysis

Statistical package for social science (SPSS) Version 22 of was used to conduct the statistical analysis. The researcher identified the variables in a list and created a computer-based data definition record file consisting of an ordered list of variables. The researcher defined the types, values, decimal, label alignment, and measurement level of data in the variable view of SPSS. The last stage consisted of cleaning fresh data files to verify that all data from the questionnaire sheet were appropriately entered into the SPSS data view. The raw data were then ready for SPSS analysis. The information was gathered using frequency and contingency tables. Using the mean plus the standard deviation (SD) for variables, central tendency measurements were conducted. Chi-squared test was used to evaluate the relationship between numerical variables. The data were analyzed using descriptive statistics and displayed using tables, bar graphs, pie charts, etc. To decorate the bar graph and pie charts, Microsoft office Excel 2016 was utilized. This study's findings comprised of quantitative data. This study collected a great deal of data.

3.12 Level of Significance

To determine the significance of the study, the p-value was determined. The p values represent the probability of experimental study results. Probability refers to the reliability of the findings. A p value is referred to as an experiment's degree of significance, and a p value of 0.05 was deemed significant for health service research. If the p value is equal to

or less than the significance threshold, the results are deemed significant (DePoy & Gitlin, 2015).

3.13 Rigor

This study was conducted in systematic way. All the steps of research were followed by the researcher sequentially. During data collection the researcher avoided influencing the whole process by own perspectives, values, and biases. The researcher never influenced the participants by his own perceptions during data collection. A trustful relationship with participants was always maintained and the documents were kept confidential. Biasness had been avoided during data analysis and data was analyzed by the scientific way of SPSS.

3.14 Ethical Consideration

The whole process of this research project was done by following the Bangladesh Medical Research Council (BMRC) guidelines and World Health Organization (WHO) Research guidelines. The proposal of the dissertation including methodology was presented to the Institutional Review Board (IRB) of Bangladesh Health Professions Institute (BHPI) (Appendix- A). Again, before starting data collection, researcher obtained permission (Appendix- B) from the head of physiotherapy department to collect data at musculoskeletal department of CRP, Savar. The researcher strictly maintained the confidentiality regarding participant's condition and treatments. The researcher obtained consent from each participant to take part in this study. A signed informed consent form (Appendix- C) was received from each participant. The participants they decline answering any question during the study and were free to withdraw their consent and terminate participation at any time. The researcher was eligible to do the study after knowing the academic and clinical rules of doing the study about what should be done and what should not. All rights of the participants were reserved and researcher was accountable to the participant to answer any type of study related question.

CHAPTER-IV RESULTS

A total 200 respondents with musculoskeletal pain were interviewed for this study.

4.1 Age group of the participants

Among the 200 participants, the mean age was 36.03, the median was 35.00, the mode was 22, and the standard deviation was ±11.678. The minimum age range was 20 years, and the maximum was 60 years old (Table I).

Table I: Age of the participants

Age	**Values**
Mean	36.03
Standard deviation	±11.678

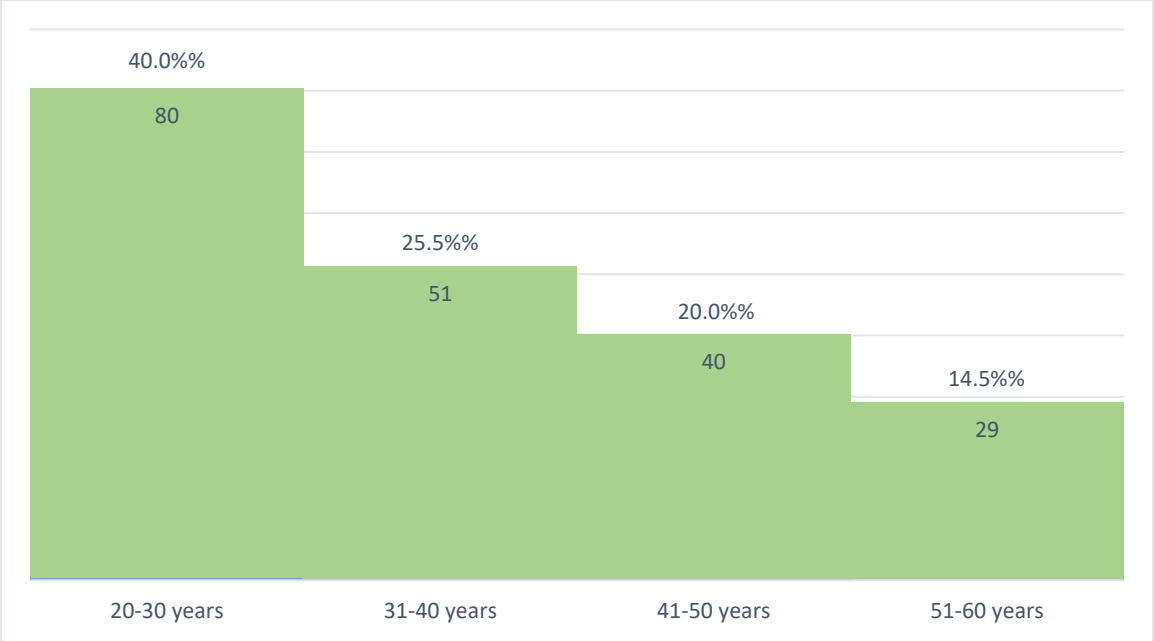

Figure 1: Age group of the participants

In this research, majority of the respondents (n=80) were between 20 to 30 years of age, followed by (n=51) were between 31-40 years of age, (n=40) were between 41-50 years of age, and (n=29) were between 51-60 years of age (Figure 1).

4.2 Gender of the participants

In this study, 72.5% (n=145) was male and 27.5% (n=55) was female (Figure 2).

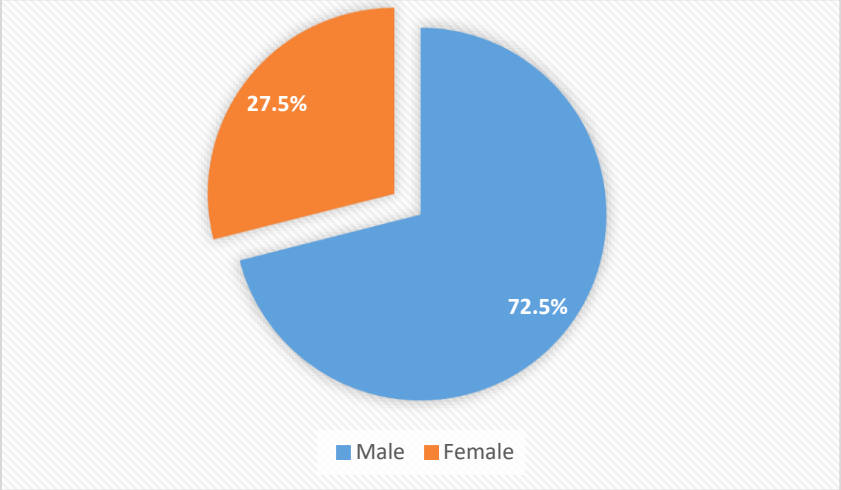

Figure 2: Gender of the participants

4.3 Marital status of the participants

Among the 200 participants, 67.5% (n=135) participants were married, 31.5% (n=63) participants were unmarried, 0.5% (n=1) participants were divorced and 0.5% (n=1) participants were widowed (Figure 3).

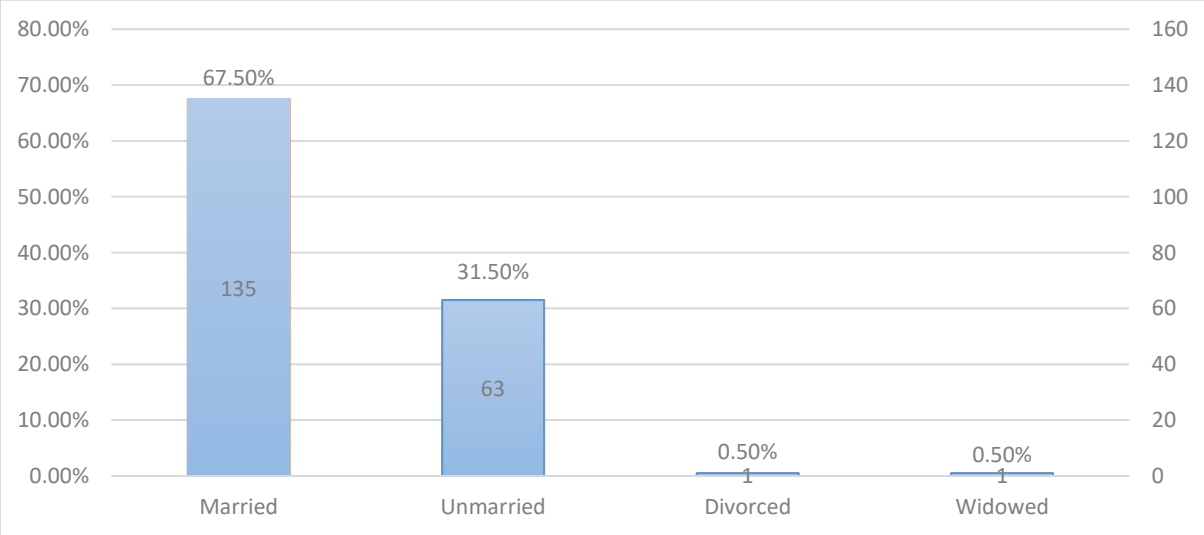

Figure 3: Marital status of the participants

4.4 Living Area of the participants

In this study, in total 39.0% (n=78) participant lives in rural area, 26.0% (n=52) participant's lives in semi-urban area and 35.0% (n=70) participant's lives in urban area (Figure 4).

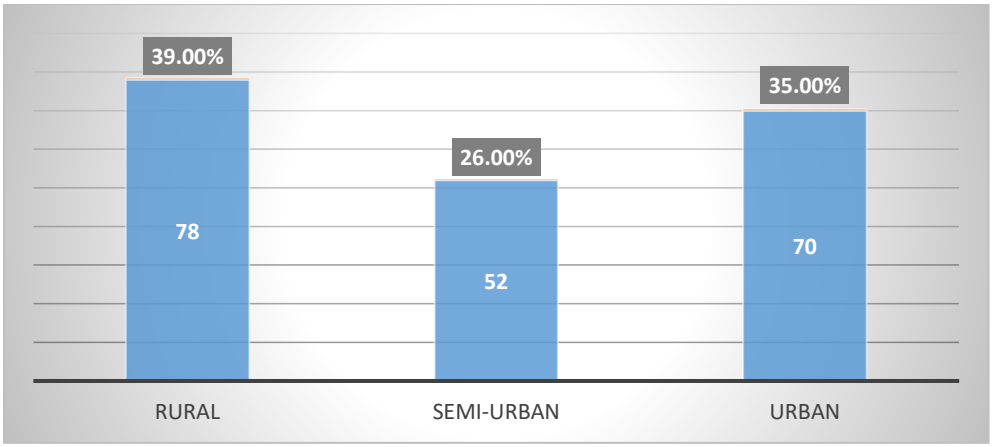

Figure 4: Living area of the participants

4.5 Educational Qualification of the participants

In this study, 8.5% (n=17) participants were illiterate, 19.0% (n=38) were at primary level, 29.5% (n=59) were at secondary school, 21.5% (n=43) were at higher secondary level, 19.0% (n=38) were graduates, and 2.5% (n=5) were postgraduate (Figure 5).

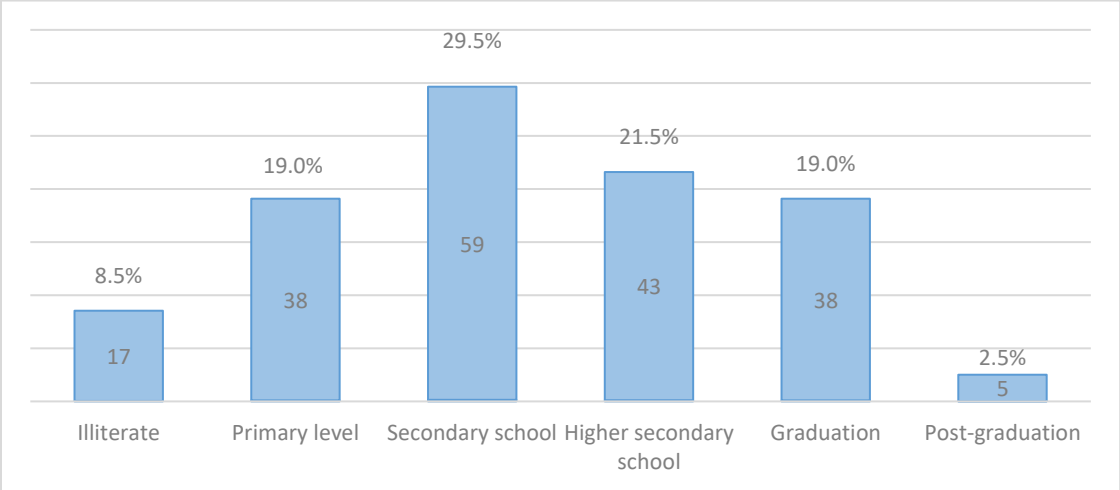

Figure 5: Education level of the participants

4.6 Occupation of the participants

Among the 200 participants, businessman was 17.5% (n = 35), government job holder was 6.0% (n = 12), non-government job holder was 20.0% (n = 40), driver was 2.0% (n = 4), housewives were 14.5% (n = 29), students were 22.5% (n = 45), farmer were 8.5% (n =17), unemployed were 67.5% (n =15), and daily workers were 1.5% (n =3) (Table II).

Table II: Occupation of the participants

Occupations	**Frequency**		**Percent**
	Male	Female	
Business	35	0	17.5%
Government job	10	2	6.0%
Non-government job	34	6	20.0%
Driver	4	0	2.0%
Housewife	0	29	14.5%
Student	29	16	22.5%
Farmer	17	0	8.5%
Unemployed	13	2	7.5%
Daily worker	3	0	1.5%

4.7 Family member of the participants

According to this study, most of the participants family member (n=96) were 5 or more persons. Followed by (n=74) participants family member was 4 persons, (n=27) participants family member was 3 persons and 3 participants family member were 2 persons (Table III).

Table III: Family member of the participants

Family member	Frequency	Percent
2 persons	3	1.5%
3 persons	27	13.5%
4 persons	74	37.0%
5 or more persons	96	48.0%

4.8 Number of households earning member of the participants

153 respondents' family (76.5%) had 1 member, 36 respondents' family (18.0%) had 2-member, 8 respondents' family (4.0%) had 3-member, 1 respondent's family (0.5%) had 4-member, 1 respondents' family (0.5%) had 5 member and 1 respondent (0.5%) family had 7 earning members (Table IV).

Table IV: Number of households earning member of the participants

Earning member	Frequency	Percent
1 member	153	76.5%
2 members	36	18.0%
3 members	8	4.0%
4 members	1	0.5%
5 members	1	0.5%
7 members	1	0.5%

4.9 Monthly income of the participants

Among the 200 participants, the mean monthly income was 29527.50, the median was 20000.00, the mode was 20000. The minimum income was 5000 and the maximum was 300000 (Table V).

Table V: Monthly income of the participants

Monthly income	**Values**
Mean	29527.50
Median	20000.00
Mode	20000

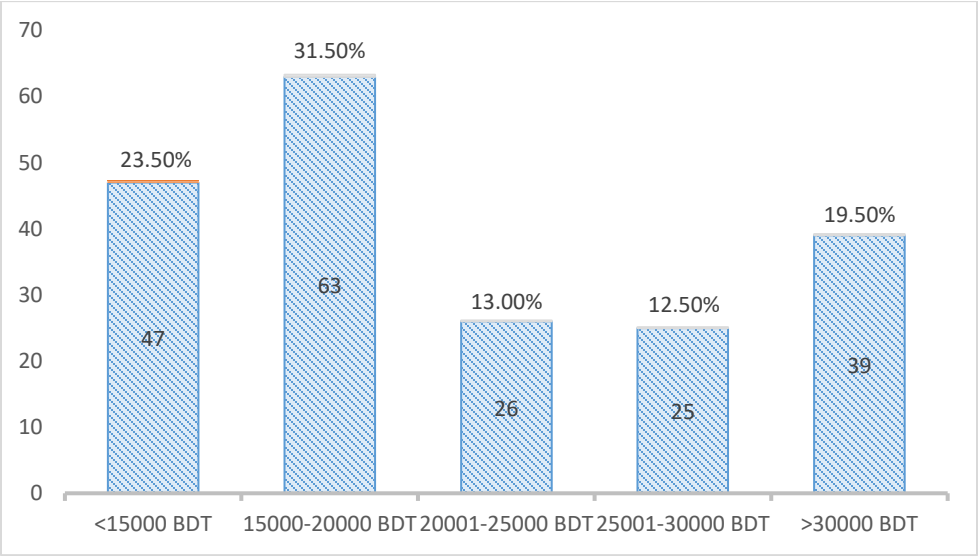

Figure 6: Monthly income of the participants

Most of the participants (n=63) were having monthly income in between 15000 to 20000 BDT. 47 participants having monthly income below 15000 BDT, 26 participants having monthly income in between 20000 to 25000, 25 participants having monthly income in between 25000 to 30000 and 39 participants having monthly income more than 30000 BDT (Figure 6).

4.10 Co-morbid disease among the participants

Figure 7 shows among the participants, morbid disease such as diabetes, hypertension, asthma, heart disease or others present among 38.50% (n=77) and absent among 61.50% (n=123) participants.

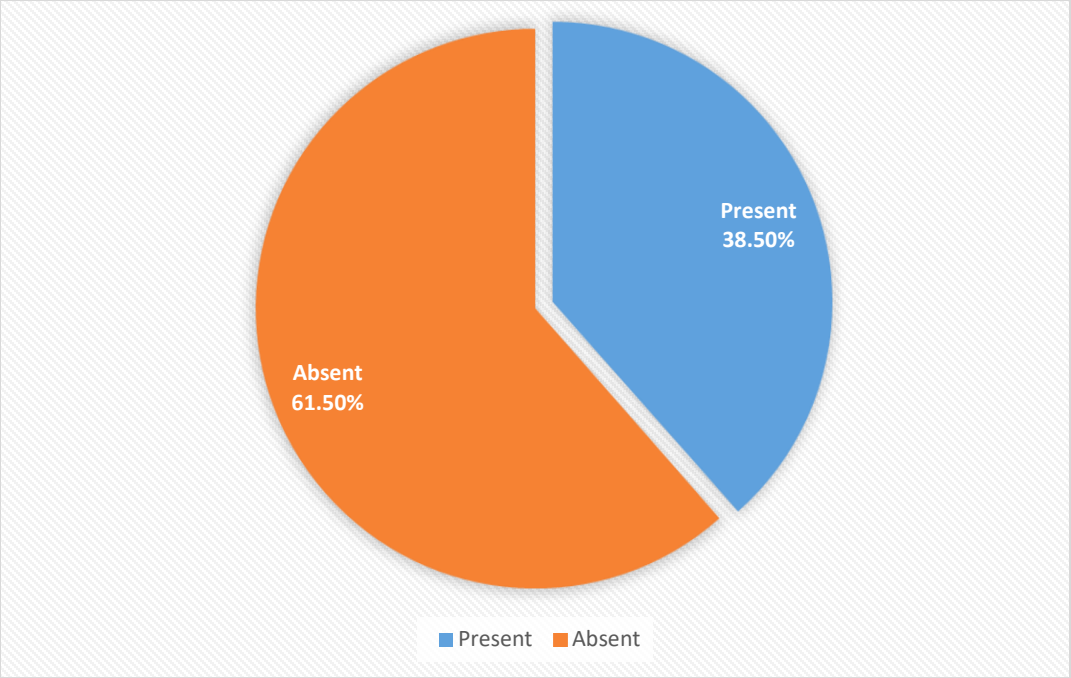

Figure 7: Co-morbid disease among the participants

4.11 Duration of experienced pain

According to this study, most the participants experienced pain between 30-90 days (n=47). Followed by 46 participants experienced pain for more than 450 days, 38 participants experienced pain between 300-450 days, 33 participants experienced pain between 150-300 days, 18 participants experienced pain less than 30 days and between 90-150 days (Figure 8).

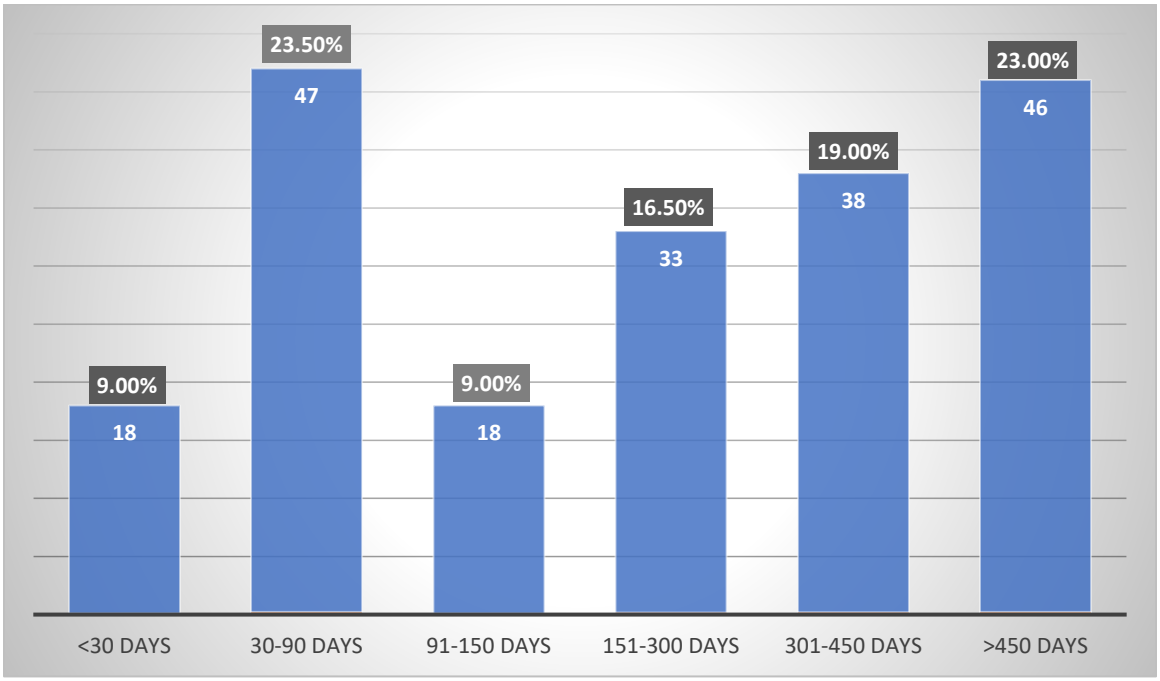

Figure 8: Duration of experienced pain

4.12 Received of treatment sessions

Among the 200 participants, the mean treatment sessions were 11.72 the median were 10.00, the mode was 7, and the standard deviation was ±5.73. The minimum treatment was 6 and the maximum was 35 (Table VI).

Table VI: Received of treatment sessions

Treatment sessions	Values
Mean	11.72
Median	10.00
Mode	7

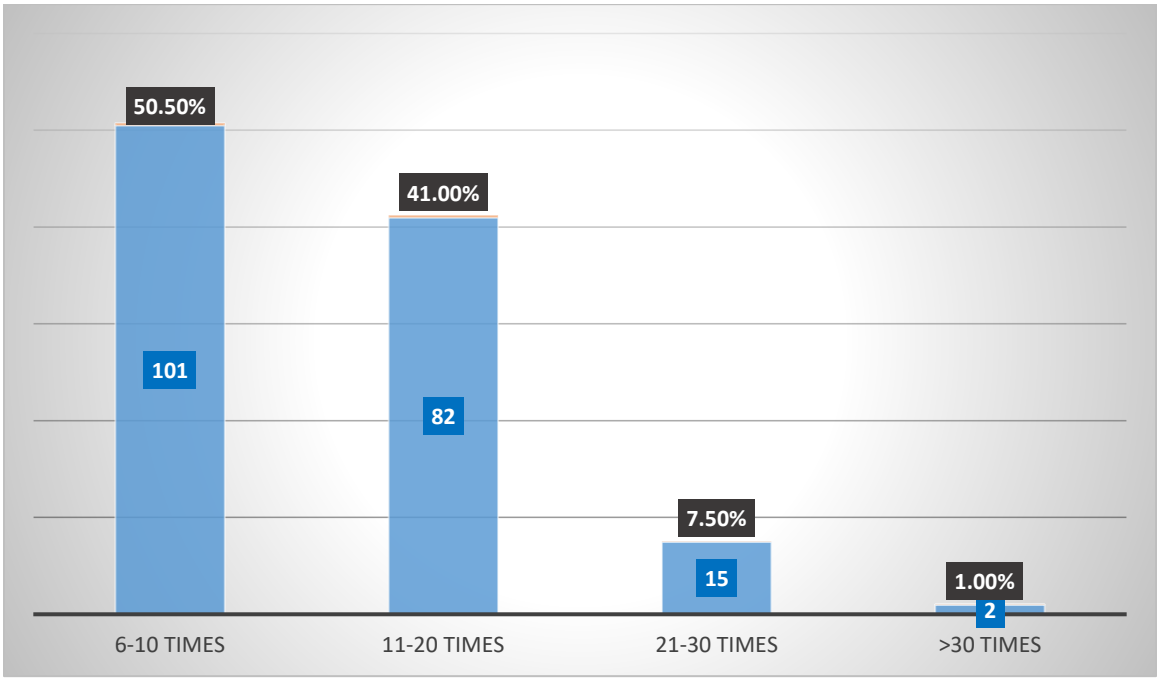

Figure 9: Received of treatment sessions

According to this study, most of the participants (50.50%) took physiotherapy treatment sessions between 6-10 times (n=101). Followed by 82 participants took physiotherapy treatment sessions between 11-20 times, 15 participants took physiotherapy treatment sessions between 21-30 times and only 2 participants took physiotherapy treatment sessions more than 30 times (Figure 9).

4.13 Information about treatment sessions

Table VII shows that most of participants who took physiotherapy treatment at CRP are arrived on time for physiotherapy treatment (97%). This means participants are highly motivated to take treatment at CRP. Most of the patients continued physiotherapy treatment even though they were not well physically. They were coming for physiotherapy whatever he faced. 191 participants admitted that they were not forget about their treatment sessions. This is huge number. Most of the participants admitted that physiotherapist from home they took treatment were listen carefully to them. According to this study, most of participants took physiotherapy treatment for less than 1 month.

Table VII: Information about treatment sessions

Variable	Frequency	Percent
Timely arrived for physiotherapy treatment		
Yes	194	97.0%
No	6	3.0%
Discontinued taking physiotherapy when feel bad	9	4.5%
Yes	191	95.5%
No		
Forgotten to take treatment sessions		
Yes	9	4.5%
No	191	95.5%
Failed to take prescribed treatment sessions		
1-2 times	8	4.0%
3-5 times	1	0.5%

Healthcare provider (physiotherapist) listen carefully to patients		
Yes, definitely	191	95.5%
Yes, somewhat	9	4.5%
Receiving services from current healthcare provider (CRP)		
<1 months	75	37.5%
1-2 months	71	35.5%
2-5 months	31	15.5%
5 or more months	23	11.5%

4.14 Adherence to prescribed home advised physiotherapy treatment

Among all the participants, most of the participants medium adherent to physiotherapy treatment 46.0% (n=92), high adherent was 39.0% (n=78) and low adherent were 15.0% (n=30) (Figure 10).

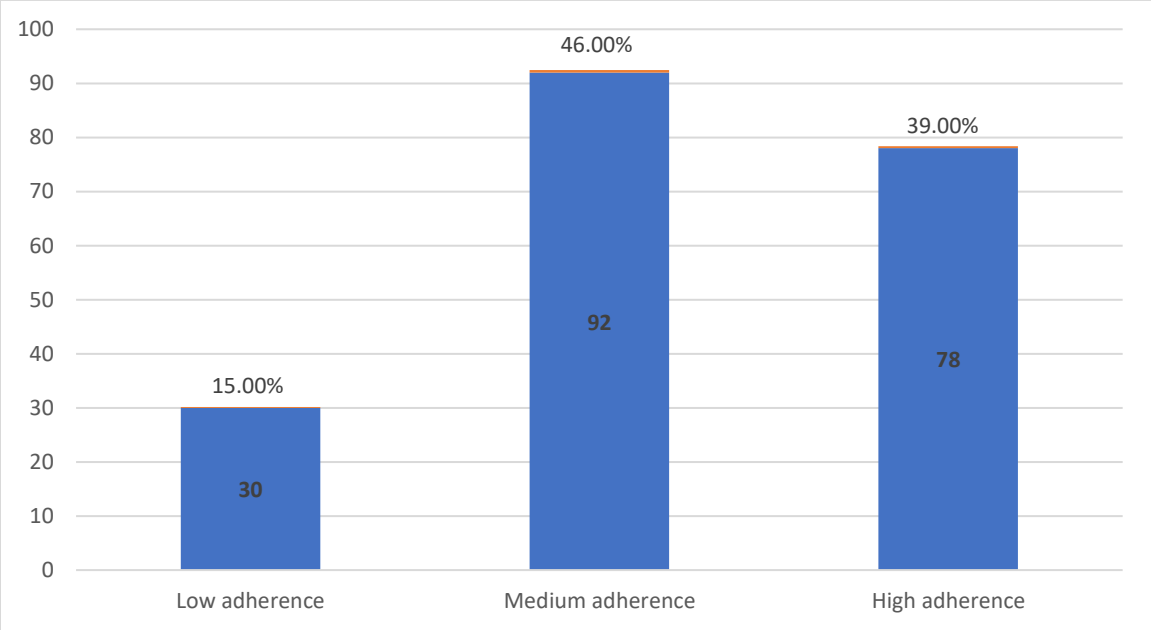

Figure 10: Adherence to prescribed home advised physiotherapy treatment

4.15 Cross tabulation between age groups and adherence to prescribed home advised physiotherapy treatment

A chi-square test for independence was used to assess whether the age groups was related to home advised physiotherapy treatment. The chi-square test was statistically significant, x^2 (6, N=200) = 21.621, p=0.001, with phi (φ) coefficient of 0.33, indicating a medium to large relationship. As seen in Table VIII, age groups has significant relationship with home-advised physiotherapy treatment.

Table VIII: Cross tabulation between age groups and adherence to prescribed home advised physiotherapy treatment

Age groups	**Low adherence**	**Medium adherence**	**High adherence**	**Chi-square test**	**P-value**
20-30 years	5	31	44	21.621	0.001***
31-40 years	10	25	16		
41-50 years	6	24	10		
51-60 years	9	12	8		
Total	**30**	**92**	**78**		

4.16 Cross tabulation between marital status and adherence to prescribed home advised physiotherapy treatment

A chi-square test for independence was used to assess whether the marital status was related to home advised physiotherapy treatment. The chi-square test was statistically significant, x^2 (6, N=200) = 22.925, p=0.001, with phi (φ) coefficient of 0.34, indicating a medium to large relationship. As seen in Table IX, marital status has significant relationship with home-advised physiotherapy treatment.

Table IX: Cross tabulation between marital status and adherence to prescribed home advised physiotherapy treatment

Marital status	**Low adherence**	**Medium adherence**	**High adherence**	**Chi-square test**	**P-value**
Married	26	70	39	22.925	0.001***
Unmarried	4	20	39		
Divorced	0	1	0		
Widowed	0	1	0		
Total	**30**	**92**	**78**		

4.17 Cross tabulation between educational qualification and adherence to prescribed home advised physiotherapy treatment

A chi-square test for independence was used to assess whether the educational qualification was related to home advised physiotherapy treatment. The chi-square test was not statistically significant, x^2 (10, N=200) = 8.763, p= 0.555 (which is greater than 0.05), with phi (φ) coefficient of 0.21, indicating a small to medium relationship. As seen in Figure 11, educational qualification has no significant relationship with home-advised physiotherapy treatment.

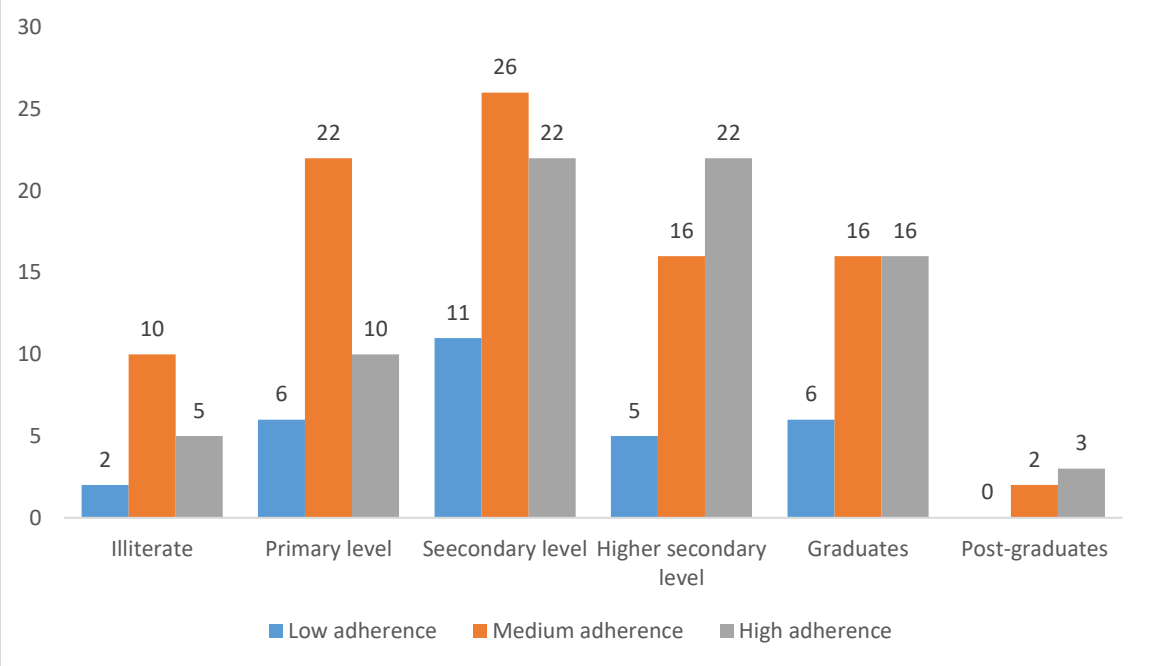

Figure 11: Cross tabulation between educational qualification and adherence to prescribed home advised physiotherapy treatment

4.18 Cross tabulation between Family member and adherence to home advised physiotherapy treatment

A chi-square test for independence was used to assess whether the family member was related to home advised physiotherapy treatment. The chi-square test was not statistically significant, x^2 (6, N=200) = 7.824, p= 0.251 (which is greater than 0.05), with phi (φ) coefficient of 0.20, indicating a small to medium relationship. As seen in Table X, family member has no significant relationship with home-advised physiotherapy treatment.

Table X: Cross tabulation between Family member and adherence to home advised physiotherapy treatment

Family member	**Low adherence**	**Medium adherence**	**High adherence**	**Chi-square test**	**P-value**
2 persons	1	0	2	7.824	0.251
3 persons	1	14	12		
4 persons	15	30	29		
5 or more persons	13	48	35		
Total	**30**	**92**	**78**		

4.19 Cross tabulation between monthly income and adherence to home advised physiotherapy treatment

A chi-square test for independence was used to assess whether the monthly income was related to home advised physiotherapy treatment. The chi-square test was not statistically significant, x^2 (8, N=200) = 3.808, p= 0.874 (which is greater than 0.05), with phi (φ) coefficient of 0.14, indicating a small to medium relationship. As seen in Table XI, monthly income has no significant relationship with home-advised physiotherapy treatment.

Table XI: Cross tabulation between monthly income and adherence to home advised physiotherapy treatment

Monthly income	**Low adherence**	**Medium adherence**	**High adherence**	**Chi-square test**	**P-value**
<15000 BDT	8	23	16	3.808	0.874
15000-20000 BDT	10	26	27		
20001-25000 BDT	4	10	12		
25001-30000 BDT	3	11	11		
>30000 BDT	5	22	12		
Total	**30**	**92**	**78**		

4.20 Cross tabulation between duration of experienced pain and adherence to prescribed home advised physiotherapy treatment

A chi-square test for independence was used to assess whether the experienced pain was related to home advised physiotherapy treatment. The chi-square test was not statistically significant, x^2 (10, N=200) = 6.905, p= 0.734 (which is greater than 0.05), with phi (φ) coefficient of 0.19, indicating a small to medium relationship. As seen in Figure 12, experienced pain has no significant relationship with home-advised physiotherapy treatment.

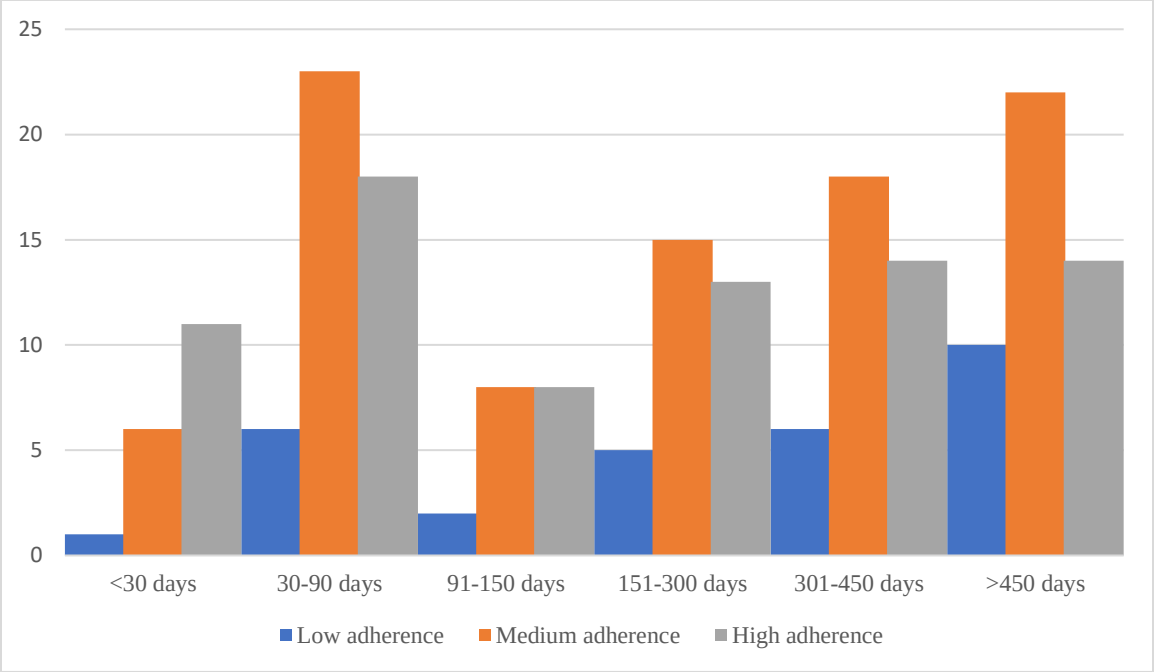

Figure 12: Cross tabulation between duration of experienced pain and adherence to prescribed home advised physiotherapy treatment

4.21 Cross tabulation between treatment sessions and adherence to prescribed home advised physiotherapy treatment

A chi-square test for independence was used to assess whether the treatment sessions was related to home advised physiotherapy treatment. The chi-square test was statistically significant, x^2 (6, N=200) = 17.471, p= 0.008, with phi (φ) coefficient of 0.29, indicating a small to medium relationship. As seen in Table XII, treatment sessions has significant relationship with home-advised physiotherapy treatment.

Table XII: Cross tabulation between treatment sessions and adherence to prescribed home advised physiotherapy treatment

Treatment sessions	**Low adherence**	**Medium adherence**	**High adherence**	**Chi-square test**	**P-value**
6-10 times	11	42	48	17.471	0.008***
11-20 times	12	46	24		
21-30 times	6	4	5		
>30 times	1	0	1		
Total	**30**	**92**	**78**		

4.22 Cross tabulation between timely arrival for physiotherapy treatment and adherence to prescribed home advised physiotherapy treatment

A chi-square test for independence was used to assess whether timely arrival for physiotherapy treatment was related to home advised physiotherapy treatment. The chi-square test was statistically significant, x^2 (2, N=200) = 12.956, p=0.002, with phi (φ) coefficient of 0.26, indicating a small to medium relationship. As seen in Table XIII, timely arrival for physiotherapy treatment has significant relationship with prescribed home-advised physiotherapy treatment.

Table XIII: Cross tabulation between timely arrival for physiotherapy treatment and adherence to prescribed home advised physiotherapy treatment

Timely arrival for physiotherapy treatment	**Low adherence**	**Medium adherence**	**High adherence**	**Chi-square test**	**P-value**
Yes	26	91	77	12.956	0.002***
No	4	1	1		
Total	**30**	**92**	**78**		

CHAPTER-V DISCUSSION

The purpose of the study was to determine the adherence of patients with musculoskeletal pain disorders to home-based physiotherapy treatment at the outpatient department of CRP, Savar. In physiotherapy outpatient departments, the overall adherence to a home-based exercise program was moderate at 46% (n=92). In this study, those participants aged 20–30 years old, who were predominantly male, reported the highest levels of adherence. This may be because male and adult participants were more prevalent than female and older participants. Age, marital status, and timely arrival for physiotherapy treatment were significant predictors of home-based exercise program adherence.

In this study patient adherence to HBEP with high adherence was found 39%. The findings of this study are comparable to the findings of another study that was conducted by the Netherlands Institute of Primary Health Care, which found a prevalence of 35% (Sluijs et al., 1993); 39% in general physical therapy at Hacettepe University Hospital, Ankara, Turkey (Chan and Can, 2010); and 37.6% in outpatient physiotherapy clinics in Lagos State South West, Nigeria (Odebiyi et al., 2020).

In contrast, the proportion found in this study was lower than the 50 percent found in Canadian studies (L'Heureux et al., 2020); the Canadian studies included only low back pain and used a repeated-measures design, whereas our study included other conditions and used a cross-sectional design. According to Babbar et al. (2021) there were 63.5% of musculoskeletal disease patients in India and 55.8% of stroke patients (Ogwumike et al., 2014). This disparity may be attributable to differences between groups consisting of stroke survivors, as well as differences in study design, sample size, and sampling process.

Age, sex, monthly income, length of symptoms, and the number of treatment sessions are the study's baseline characteristics. Among the 200 participants, the average age was found to be 36.1 years old. There were 72.5 percent male participants and 27.5 percent female participants in this study. In this survey, most participants were married, 39% lived in rural areas, and 29.5% had a high school diploma (most). Most of the study participants were students. One hundred and seventy-seven percent of the participants were male; the median age was 35 years, with an interquartile range (IQR) of 28 to 47 years, according to a study

by Yalew et al. (2022) more than a third (36.3%) of the participants had at least a bachelor's degree or higher. 72% of those who took part in the study lived in cities.

The outcomes of this study indicate that age is strongly connected with adherence, with a tendency for younger populations to adhere more than older populations. According to research conducted in Egypt (El-Sakhy, 2020) regular physical activity/exercise declines with age. In their study, Caspersen et al. (2000) showed that male patients were nearly three times more likely than female patients to adhere to home-based exercise programs. This is due to the fact that, despite the lack of a specific explanation, the higher rate of adherence seen among men in this study may be attributable to the particular sociocultural concerns of Ethiopians (Zeleke Negera and Charles Epiphanio, 2020). Men in Nigeria (Okezue et al., 2019), the United States (Caspersen et al., 2000), and Turkey (Chan and Can, 2010) engage in more physical activity than women, suggesting that gender is significantly connected with exercise adherence. In contrast, there is no significant association between the research conducted in Spain (Medina-Mirapeix et al., 2009) and northwest Nigeria (Ogwumike et al., 2014). This may include sample size, study location, study participants, sampling method, and data collector quality.

The findings revealed no significant correlation between educational attainment and home-based physiotherapy exercise programs. Yalew et al. (2022) discovered in their study that education level is substantially connected with HBEP adherence, whereby HBEP adherence is higher among patients with higher educational standing, with 4.3 times more adherence than patients who are unable to write or read. This was supported by a Nigerian study (Okezue et al., 2019). In contrast, a study conducted in the United States (Caspersen et al., 2000) found that education is not significantly related to exercise adherence. Another study indicated that housewives adhere to the HBEP at nearly five times the rate of others. This is because employed or self-employed individuals spend more time at work and may not have time for HBEP due to active travel (Barr et al., 2020). But according to a second study conducted in Egypt, employment is more likely to comply with HBEP (El-Sakhy, 2020). This mismatch may result from a distinct demographic, sample size, research design, or sampling process.

This study found significant association between marital status and home-based physiotherapy exercise programs. A study conducted in Nigeria revealed that there was no association between the marital status of the participants and their adherence to HEPs (p=0.120) (Okezue et al., 2019). Another study revealed a marginally significant correlation between marital status and physiotherapy treatment adherence (El-Sakhy, 2020). Furthermore, a study conducted in Panama revealed that there was no statistical correlation between marital status and adherence to physiotherapy treatment.

Regarding this study, timely physiotherapy treatment administration showed a substantial correlation with adherence to a home-based exercise regimen. A study also revealed that patients who receive prompt outpatient physiotherapy are more likely to stick to a home-based physiotherapy regimen (Blom et al., 2016).

According to this study, there is statistically significant correlation between treatment sessions and adherence to a home-based fitness regimen. A study revealed that the correlation between treatment sessions and adherence to a home-based fitness regimen is statistically significant (Hopewell et al., 2021). Participants who received at least six treatment sessions were reported to be more motivated to perform prescribed home exercises and more compliant. Another study has shown that treatment sessions are statistically associated with home exercise program adherence (Chetty et al., 2015). This assured them they were motivated to participate in their workout program.

Furthermore, no significant association was identified between monthly income and adherence to home-based physiotherapy treatment, nor between a family member and adherence. Those who remembered their exercise were approximately three times more likely to stick to the HBEP than those who forgot. This outcome is supported by the research conducted Nigeria (Okezue et al., 2019) where the authors hypothesize that even though forgetfulness is an unintentional procedure, it may have been caused by the patients' perception of barriers or lack of importance attached to the HBEP. The perception that exercise is engaging had a beneficial effect on HBEP adherence; patients who viewed exercise as intriguing were three times more likely to adhere to the program than those who perceived exercise as dull. Low motivation may be one of the barriers to exercising (Damush et al., 2007).

CHAPTER-VI LIMITATIONS

Despite the adherence of patients with musculoskeletal pain disorders to home-based physiotherapy treatment, this study had certain limitations. The study lacks external validity due to the inability to construct a sample frame, which was the primary limitation. As samples were only gathered from the Center for the Rehabilitation of the Paralyzed (CRP) in Savar, the results cannot be generalized to a broader group of individuals with musculoskeletal-related pain disorders. The limited sample size in this study may be considered a restriction. Time and resources also had a significant impact on the study and the ability to generalize the findings to a larger population. Due to the short duration of the investigation, an adequate quantity of samples could not be collected. As this was the first research conducted by the researcher, there may be certain errors that the supervisor and eminent teachers should overlook.

CHAPTER-VII CONCLUSION AND RECOMMENDATIONS

7.1 Conclusion

The phrase "musculoskeletal pain disorders" includes a variety of pain illnesses. The five subcategories of MSK pain disorders are disorders of the bone, joint/bursae, muscle/tendon/ligament, nerve, and systemic processes. Musculoskeletal (MSK) pain problems are the second most prevalent cause of disability globally, and their prevalence is growing daily. Numerous individuals are currently receiving physiotherapy treatment for their illness. Some of them are recovering quite quickly, but most are not recovering within the specified time frame. There may be problems, such as patients not adhering to physiotherapy directions. The purpose and objectives of the study were to determine the adherence of patients with musculoskeletal pain disorders to a home-based physiotherapy exercise program. Moderate adherence to home exercise programs was seen among CRP physiotherapy outpatient department patients (Musculoskeletal). Participants who are older, unmarried, uneducated, or arrive late for physiotherapy treatment have a greater probability of non-adherence and should be given additional concern.

7.2 Recommendations

Physiotherapists should discuss with musculoskeletal pain patients and their families their attitudes, beliefs, and concerns about the physiotherapy treatment and their role during the physiotherapy treatment and emphasize the importance of physiotherapy treatment adherence for better outcomes. Individual components of home-based exercise prescription, such as intensity, duration, frequency, and several exercises, should be prescribed in writing and enjoyable amounts (not excessively prescribed) and compatible with the daily routines of each musculoskeletal pain disorder patient. Patients with musculoskeletal pain disorders could be assisted in adhering to their physiotherapy treatment using group therapies and virtual reality applications. In addition, the supply of more physiotherapy services by the government could be planned for rural areas.

The researcher also recommended the following things-

- Should take more samples for generating the result and make more valid and reliable.
- Sample should collect from different hospital, clinic, institute and organization in different district of Bangladesh to generalize the result.
- To find out an effective and efficient result in generalized form, other measurement scale should be used in consideration.
- There were some limitation of this study mentioned at the relevant section; it is recommended to overcome those limitations during further study

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Appendix- A

Institutional Review Board (IRB) Letter

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

Ref: CRP/BHPI/IRB/03/2022/588 *Date:* 07/03/2022

Abu Sufian
4th Year B.Sc. in Physiotherapy
Session: 2016 – 2017
BHPI, CRP, Savar, Dhaka- 1343, Bangladesh

Subject: Approval of the research project proposal **"Musculoskeletal pain disorder patients' adherence to physiotherapy treatment at CRP, Savar"-** by ethics committee.

Dear Abu Sufian,
Congratulations.
The Institutional Review Board (IRB) of BHPI has reviewed and discussed your application to conduct the above-mentioned dissertation, with yourself, as the principal investigator and Muhammad Millat Hossain as thesis supervisor. The Following documents have been reviewed and approved:

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

The purpose of the study is to find out the musculoskeletal pain disorder patients' adherence to physiotherapy treatment at CRP. Since the study involves questionnaire that takes maximum 30 minutes and have 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 12th October, 2021 at BHPI (30th 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 accordance to Nuremberg Code 1947, World Medical Association Declaration of Helsinki, 1964 - 2013 and other applicable regulation.

Best regards,

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

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Appendix- B

Permission Letter

Permission letter

April 24, 2022

The Head of the Physiotherapy Department

Centre for the Rehabilitation of the Paralysed (CRP)

Chapain, Savar, Dhaka-1343.

Through: Head, Department of Physiotherapy, BHPI

Subject: Seeking permission for data collection of 4th year Physiotherapy Research Project.

Sir,

With due respect and humble submission to state that I am Abu Sufian, student of 4th year B.Sc. in Physiotherapy at Bangladesh Health Professions Institute (BHPI). In 4th year course curriculum, I have to conduct a research project. The ethical committee has approved my research project entitled on **"Musculoskeletal pain disorder patients' adherence to physiotherapy treatment at CRP, Savar"** under the supervision of Muhammad Millat Hossain, Associate Professor, Dept. of Rehabilitation Science, Bangladesh Health Professions Institute (BHPI). I would like to collect data, for which I need your kind approval. I assure that consent form will be taken from the participants and anything of my study will not be harmful for my participants.

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

Forwarded & Recommended
Millat Hossain
24/04/2022

Yours faithfully

Abu Sufian

Abu Sufian

4th year, B.Sc. in Physiotherapy

Roll: 08, Session: 2016-2017, ID No: 112160330

Bangladesh Health Professions Institute (BHPI)

CRP, Chapain, Savar, Dhaka-1343.

Recommended
Shofiq
25.04.22
Md. Shofiqul Islam
Associate Professor & Head
Department of Physiotherapy
Bangladesh Health Professions Institute (BHPI)
CRP, Chapain, Savar, Dhaka-1343

Approved
25/04/22
MOHAMMAD ANWAR HOSSAIN
Senior Consultant &
Head of Physiotherapy Dept
Associate Professor, BHPI
CRP, Savar, Dhaka-1343

Appendix- C

সম্মতি পত্র

আসসালামু-আলাইকুম,

আমার নাম আবু সুফিয়ান, বাংলাদেশ হেলথ প্রফেশন ইন্সটিটিউটের (বিএইচপিআই) বিএসসি ইন ফিজিওথেরাপির একজন শিক্ষার্থী। আমি ফিজিওথেরাপি ডিগ্রীতে ব্যাচেলর অফ সায়েন্সের পরিপূর্ণতার জন্য একটি গবেষণা পরিচালনা করছি, যার শিরোনাম হলো, " সিআরপি, সাভারে মাস্কুলোস্কেলিটাল পেইন ডিসঅর্ডার রোগীদের ফিজিওথেরাপি চিকিৎসার প্রতি আনুগত্য"।

এই গবেষণার মাধ্যমে, আমি সিআরপি, সাভারে মাস্কুলোস্কেলিটাল পেইন ডিসঅর্ডার রোগীদের ফিজিওথেরাপি চিকিৎসার প্রতি আনুগত্য খুঁজে বের করব। এই উদ্দেশ্যে, আমি মাস্কুলোস্কেলিটাল ব্যথা আছে এমন রোগীর কাছ থেকে তথ্য সংগ্রহ করতে হবে। গবেষণার ক্ষেত্র বিবেচনা করে, আপনি অন্তর্ভুক্তির মানদণ্ড পূরণ করেছেন এবং আমি আপনাকে এই গবেষণায় অংশগ্রহণকারী হিসাবে আমন্ত্রণ জানাতে চাই। আপনি যদি এই গবেষণায় অংশগ্রহণ করেন, আমি আপনার চিকিৎসা সংক্রান্ত তথ্য নেব এবং ফিজিওথেরাপি চিকিৎসার আনুগত্য মূল্যায়ন করব। আপনার অংশগ্রহণ স্বেচ্ছায় হবে। ডেটা সংগ্রহের সময় আপনার সম্মতি প্রত্যাহার এবং অংশগ্রহণ বন্ধ করার অধিকার থাকতে পারে। অধ্যয়ন বা অংশগ্রহণকারী হিসাবে আপনার অধিকার সম্পর্কে আপনার কোন প্রশ্ন থাকলে, আপনি গবেষক আবু সুফিয়ানের সাথে যোগাযোগ করতে পারেন (মোবাইল নম্বর: 01517800684, ইমেইল: physiosanvi@gmail.com)

আমি..... ফর্মের বিষয়বস্তু পড়েছি এবং বুঝতে পেরেছি।

আমি কোনো জোর ছাড়াই গবেষণায় অংশগ্রহণ করতে সম্মত।

ইন্টারভিউয়ারের স্বাক্ষর.....

Consent Form (English)

Assalamu-alaikum

My name is Abu Sufian, student of B.Sc in Physiotherapy at Bangladesh Health Professions Institute (BHPI), CRP. I am conducting a study for partial fulfillment of Bachelor of Science in Physiotherapy degree, titled, **"Musculoskeletal pain disorder patients' adherence to physiotherapy treatment at CRP, Savar".**

Through this research, I will find out musculoskeletal pain disorder patients' adherence to physiotherapy treatment at CRP, Savar. For this purpose, I would need to collect data from the patient having musculoskeletal pain. Considering the area of research, you have met the inclusion criteria and I would like to invite you as a participant of this study. If you participate in this study, I will take your treatment related information & evaluate adherence to physiotherapy treatment. Your participation will be voluntary. You may have the right to withdraw consent and discontinue participation during data collection. If you have any query about the study or your right as a participant, you may contact with, researcher **Abu Sufian (mobile No: 01517800684, email: physiosanvi@gmail.com).**

I……. have read and understand the contents of the form.

I agree to participant in the research without any force.

Signature of the Interviewer…….

Appendix- D

প্রশ্নাবলী

সাক্ষাৎকারের সময়সূচী অংশ ১: রোগীর সনাক্তকরণ এবং সামাজিক-জনসংখ্যা সংক্রান্ত প্রশ্ন।		
১	সাক্ষাৎকারের তারিখ:	
২	ঠিকানা:	
৩	মোবাইল নম্বর:	
৪	সম্মতি নেওয়া হয়েছে:	হ্যাঁ / না

অনুগ্রহ করে আপনার সঠিক উত্তর নির্বাচন করুন এবং উত্তরটিকে " " বৃত্তের মাধ্যমে চিহ্নিত করুন

নম্বর	প্রশ্ন	প্রতিক্রিয়া/উত্তর
৫	বয়স	..... বছর
৬	সেক্স	০১. পুরুষ ০২. মহিলা
৭	বৈবাহিক অবস্থা	০১. বিবাহিত ০২. অবিবাহিত ০৩. তালাকপ্রাপ্ত ০৪. বিধবা
৮	বসবাসের এলাকা	০১. গ্রামীণ ০২. আধা-শহুরে ০৩. শহুরে
৯	শিক্ষাগত যোগ্যতা	০১. অশিক্ষিত ০২. প্রাথমিক ০৩. মাধ্যমিক ০৪. উচ্চ মাধ্যমিক

		০৫. স্নাতক ০৬. স্নাতকোত্তর
১০	পেশা	
১১	পরিবারের সদস্য	
১২	উপার্জনকারী সদস্য	
১৩	মাসিক আয়	..... টাকা
১৪	আপনার কি অন্য কোন রোগ আছে?	০১. হ্যাঁ ০২. না
১৫	যদি থাকে, তাহলে এর মধ্যে কোনটি?	০১. ডায়াবেটিস ০২. হাইপারটেনশন ০৩. হাঁপানি ০৪. হৃদরোগ ০৫. অন্যান্য

অংশ ২: রোগীর কন্ডিশন এবং চিকিৎসা সেশন সম্পর্কিত তথ্য

নম্বর	প্রশ্ন	উত্তর/প্রতিক্রিয়া
১	আপনি কতদিন যাবৎ ব্যথা অনুভব করছেন?	…….বছর.....মাস.....দিন
২	রোগীর কার্ড অনুযায়ী চিকিৎসা সেশনের সংখ্যা?	
৩	আপনি কি ফিজিওথেরাপি চিকিৎসার জন্য সবসময় সিআরপিতে সময়মতো পৌঁছান?	০১. হ্যা ০২. না
৪	আপনি কি কখনও ফিজিওথেরাপি চিকিৎসা নেওয়া বন্ধ করেছেন, যখন আপনার খারাপ লাগে?	০১. হ্যা ০২. না
৫	আপনি কি কখনও আপনার চিকিৎসা সেশন সম্পর্কে ভুলে গেছেন?	০১. হ্যা ০২. না
৬	যদি হ্যাঁ হয়, তবে আপনি কতবার আপনার নির্ধারিত চিকিৎসা সেশনগুলি গ্রহণ করতে ব্যর্থ হয়েছেন?	০১. ১-২ বার ০২. ৩-৫ বার ০৩. ৬-১০ বার ০৪. ১০ বারের বেশি
৭	আপনার সবচেয়ে সাম্প্রতিক চিকিৎসার সময়, আপনার স্বাস্থ্যসেবা সরবরাহকারী (ফিজিওথেরাপিস্ট) কি আপনার কথা মনোযোগ সহকারে শুনেছেন?	০১. হ্যাঁ, অবশ্যই ০২. হ্যাঁ, কিছুটা ০৩. না
৮	আপনি কতদিন ধরে বর্তমান স্বাস্থ্যসেবা প্রদানকারীর (সিআরপি) কাছ থেকে চিকিৎসা পরিষেবাগুলি গ্রহণ করছেন?	০১. ১ মাসের কম ০২. ১-২ মাস ০৩. ২-৫ মাস ০৪. ৫ বা ততোধিক মাস

অংশ ৩: রোগীর ফিজিওথেরাপী চিকিৎসার প্রতি আনুগত্য

দীর্ঘস্থায়ী রোগের আনুগত্য স্কেল

নীচে উত্তর সহ ৭টি প্রশ্নের একটি সেট রয়েছে। অনুগ্রহ করে বাছাই করুন, কোন প্রতিক্রিয়াটি আপনার আচরণ, আপনার পরিস্থিতি এবং আপনার মতামতকে সর্বোত্তমভাবে প্রতিফলিত করে। অনুগ্রহ করে সর্বোত্তম উত্তরগুলি সরবরাহ করুন।

নম্বর	প্রশ্ন	উত্তর/প্রতিক্রিয়া
১	আপনি কি সবসময় আপনার ফিজিওথেরাপিস্টের নির্দেশাবলী অনুযায়ী আপনার বাড়ির সমস্ত ব্যায়ামগুলো করার কথা মনে রাখেন?	০১. সবসময় ০২. প্রায় সবসময় ০৩. কখনও কখনও ০৪. কদাচিৎ কখনও ০৫. কখনোই না
২	আপনি কি আপনার ফিজিওথেরাপিস্টের সাথে পূর্ব পরামর্শ ছাড়াই আপনার বাড়ির ব্যায়াগুলোর ফ্রিকোয়েন্সি পরিবর্তন করেন?	০১. কখনোই না ০২. শুধুমাত্র মাঝে মাঝে ০৩. কখনও কখনও ০৪. ঘন ঘন ০৫. আমি একেবারেই আমার ফিজিওথেরাপিস্টের পরামর্শ মেনে চলি না
৩	আপনি কেমন বোধ করেন সে অনুযায়ী আপনি কি আপনার ব্যায়ামগুলোর ফ্রিকোয়েন্সি সামঞ্জস্য করেন?	০১. না, আমি কঠোরভাবে নির্ধারিত ফ্রিকোয়েন্সি অনুসরণ করি, আমি কেমন অনুভব করি এটা কোন ব্যাপার না ০২. হ্যাঁ, আমি যখন ভাল বোধ করি তখন আমি কিছু ব্যায়ামের ফ্রিকোয়েন্সি হ্রাস করি ০৩. হ্যাঁ, আমি যখন ভাল বোধ করি তখন আমি কিছু

		ব্যায়ামের ফ্রিকোয়েন্সি এড়িয়ে যাই ০৪. হ্যাঁ, আমি যখন ভাল বোধ করি তখন আমি সাময়িকভাবে কিছু ব্যায়াম বন্ধ করে দিই ০৫. হ্যাঁ, আমি যখন ভাল বোধ করি তখন আমি সমস্ত অনুশীলন বন্ধ করে দিই।
৪	থেরাপি সম্পর্কিত পার্শ্ব প্রতিক্রিয়াগুলির উপস্থিতি (যেমন ব্যথা, ক্লান্তি, পিঠে ব্যথা, পেশী ব্যথা):	০১. আমি সাথে সাথেই থেরাপিস্টের দৃষ্টি আকর্ষণ করি ০২. আমি ব্যায়ামের ফ্রিকোয়েন্সি হ্রাস করি এবং আমার ফিজিওথেরাপিস্টের সাথে নির্বাচনী অ্যাপয়েন্টমেন্টটি শীঘ্রই করার চেষ্টা করি ০৩. আমি ব্যায়ামগুলো বন্ধ করি এবং আমার ফিজিওথেরাপিস্টের অ্যাপয়েন্টমেন্টটি শীঘ্রই নেয়ার চেষ্টা করি ০৪. আমি ব্যায়াম করা বন্ধ করি এবং আমার ফিজিওথেরাপিস্টের সাথে পরবর্তী নির্বাচনী অ্যাপয়েন্টমেন্টের জন্য অপেক্ষা করি ০৫. আমি আমার সমস্ত ব্যায়ামগুলো বন্ধ করি এবং পরবর্তী নির্বাচনী অ্যাপয়েন্টমেন্টের জন্য অপেক্ষা করি আমার ফিজিওথেরাপিস্টের সাথে

৫	আপনি কি মনে করেন যে আপনার সমস্ত থেরাপি, যার জন্য আপনি ফিজিওথেরাপি চিকিৎসা নিতে এসেছেন, এগুলো প্রয়োজনীয়?	০১. হ্যাঁ, আমি মনে করি ০২. আমার অধিকাংশ থেরাপি আমার অবস্থার জন্য উপকারী ০৩. শুধুমাত্র কিছু থেরাপি আমার কন্ডিশনের জন্য উপকারী ০৪. কিছু থেরাপি আমার কন্ডিশনের জন্য উপকারী, বাকিগুলো ক্ষতিকর ০৫. অধিকাংশ দীর্ঘমেয়াদি থেরাপি আমার জন্য ক্ষতিকর
৬	আপনার ফিজিওথেরাপিস্ট কি থেরাপি-সম্পর্কিত সমস্যাগুলি সম্পর্কে জিজ্ঞাসা করেন যা আপনি সম্ভবত অনুভব করতে পারেন?	০১. হ্যাঁ, প্রতিটি অ্যাপয়েন্টমেন্টে ০২. হ্যাঁ, তিনি সাধারণত করেন ০৩. হ্যাঁ, কিন্তু শুধুমাত্র কখনও কখনও ০৪. হ্যাঁ, কিন্তু খুবই কম ০৫. না, কখনোই না
৭	আপনার ফিজিওথেরাপিস্ট থেরাপি-সম্পর্কিত সমস্যা সম্পর্কে জিজ্ঞাসা করলে আপনি কি সত্য বলেন?	০১. হ্যাঁ, সবসময় ০২. প্রায় সবসময় ০৩. আমি সৎ হতে চেষ্টা করি, কিন্তু কখনও কখনও ফিজিওথেরাপিস্টের সাথে অ-সম্মতি স্বীকার করা কঠিন হয়ে পড়ে ০৪. কখনও কখনও হ্যাঁ, অন্য সময় না ০৫. না, আমি করি না। আমি এটা আমার ব্যক্তিগত সমস্যা মনে করি

Questionnaire (English Version)

Interview schedule **Part I: patient's Identification & Socio-demographic questions.**		
1	**Date of Interview:**	
2	**Address:**	
3	**Mobile number:**	
4	**Consent Taken:**	**Yes / No**

Please select your correct answer and marked the answer through circle " "

QN	Questions	Response/Answer
5	**Age**	……years
6	**Sex**	01. Male 02. Female
7	**Marital status**	01. Married 02. Unmarried 03. Divorced 04. Widow
8	**Living area**	01. Rural 02. Semi-urban 03. Urban
9	**Educational qualification**	01. Non-education 02. Primary 03. Secondary 04. Higher Secondary 05. Graduate 06. Postgraduate
10	**Occupation**	

11	**Family member**	
12	**Earning member**	
13	**Monthly income**	
14	**Any co morbid disease**	01. Yes 02. No
15	**If any, which one of this?**	01. Diabetes 02. Hypertension 03. Asthma 04. Heart disease 05. Others

Part II: patient's information about their conditions and treatment sessions

QN	Questions	Response/Answer
1	**How long have you experienced pain?**	……..days/months/years
2	**Number of treatment sessions as per patient's card?**	
3	**Do you always arrive on time at CRP for physiotherapy treatment?**	A. Yes B. No
4	**Have you ever discontinued taking physiotherapy treatment, when you feel bad?**	A. Yes B. No
5	**Have you ever forgotten about your treatment sessions?**	A. Yes B. No
6	**If yes, how many times did you fail to take your prescribed treatment sessions?**	A. Never B. 1-2 times C. 3-5 times D. 6-10 times E. More than 10 times
7	**During your most recent visit, did your healthcare provider listen carefully to you?**	01. Yes, definitely 02. Yes, somewhat 03. No
8	**How long have you been receiving services from your current healthcare provider?**	01. Less than 1 months 02. 1-2 months 03. 2-5 months 04. 5 or more months

Part III: patient's adherence to physiotherapy treatment.

QN	Questions	Response/Answer
1	**Do you always remember to take all your home exercises according to your physiotherapist's instructions?**	01. Always 02. Almost always 03. Sometimes 04. Hardly ever 05. Never
2	**Do you happen to change the frequency of your home exercises without prior consultation with your physiotherapist?**	01. Never 02. Only occasionally 03. Sometimes 04. Frequently 05. I do not adhere to my physiotherapist's recommendations at all
3	**Do you adjust the frequency of your exercises according to how you feel?**	01. No, I strictly follow the prescribed frequency, no matter how I feel 02. Yes, I reduce the frequency of some exercises when I feel good 03. Yes, I skip frequency of some exercises when I feel good 04. Yes, I temporarily discontinue some exercises when I feel good. 05. Yes, I discontinue all the exercises when I feel good.

4	**On the appearance of therapy related side effects (e.g. pain, fatigue, back pain, muscle soreness):**	01. I seek therapist attention instantly. 02. I reduce the frequency of the exercises and attempt to expedite the elective appointment with my physiotherapist 03. I discontinue the exercises and attempt to expedite the elective appointment with my physiotherapist 04. I discontinue the exercises and wait for the next elective appointment with my physiotherapist 05. I discontinue all my exercises and wait for the next elective appointment with my physiotherapist
5	**Do you think all of your therapy, for which you've come to physiotherapy, is necessary?**	01. Yes, I do 02. I find most of my therapy to be beneficial for my condition 03. I find only some of my therapy to be beneficial for my condition 04. I find some of my therapy to be beneficial for my condition, while the others to be harmful for me. 05. I find the majority of my long-term therapy to be harmful for me
6	**Does your physiotherapist inquire about therapy-related problems that you might possibly experience?**	01. Yes, on every appointment 02. Yes, he/she usually does 03. Yes, but only sometimes 04. Yes, but only occasionally 05. No, never

7	**Do you tell truth when asked by your physiotherapist about therapy-related problems?**	01. Yes, always 02. Almost always 03. I try to be honest, but sometimes it is hard to admit to non-compliance with doctor's recommendations 04. Sometimes yes, another time no 05. No, I don't. I find it my own private business