

# Musculoskeletal Pain Disorder Patients' Adherence to Physiotherapy Treatment: A Cross Sectional Study

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## Abstract

**Background & purpose:** 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. The study aimed to determine musculoskeletal pain disorder patients' adherence to home-based physiotherapy programs in the outpatient musculoskeletal department.

**Methods:** 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) was used to assess the adherence level to physiotherapy treatment. The study was conducted by using quantitative descriptive analysis.

**Results:** Most of the participants were medium adherent to physiotherapy treatment. Although this study found a significant association between different socio-demographic factors with adherence to physiotherapy treatment such as age, marital status, treatment sessions, and timely arrival for physiotherapy treatment.

**Conclusion:** This study concluded that most patients who are receiving treatment have moderate adherence to prescribed physiotherapy treatment at home.

**Key Words:** Musculoskeletal pain, Adherence, Physiotherapy treatment.

## Introduction

Acute or chronic musculoskeletal pain is a medical and social issue that affects people worldwide. Pain from musculoskeletal illnesses is a major medical

and economic problem.<sup>(1)</sup> 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

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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.<sup>(2)</sup>

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.<sup>(3)</sup>

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.<sup>(4)</sup>

## Methodology

**Source of Data:** musculoskeletal pain disorders patient.

**Study population:** All the musculoskeletal pain patients attended in CRP musculoskeletal unit, Savar, Bangladesh

### Inclusion Criteria:

- Age range between 20 to 60 years.
- Male and female both were included.
- Patient who has receiving physiotherapy treatment at least 6 sessions from CRP musculoskeletal unit.
- The patients who had shown willingness to participate were included.

### Exclusion Criteria:

- Stop home exercise by physiotherapist's instruction

- Refusal to give informed consent.
- Unable to attend all sessions of physiotherapy
- People who were suffering from musculoskeletal pain with serious pathological diseases e.g., tumors, tuberculosis etc.

## Method of Collection of Data

**Sampling Method:** Convenience sampling method

**Sampling Size:** 200 sample according to inclusion and exclusion criteria.

**Duration of the Study:** October 2021 to June 2022.

**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 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 the conversation. Following 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.

## Results

Among the participants, the mean age was (36.03±11.678) years. 72.5% were male and 27.5% were female. 67.5% of participants were married, 31.5% participants were unmarried, 0.5% participants were divorced and 0.5% participants were widowed. Co-morbid diseases were absent in most of the participants. Most of the participants took physiotherapy treatments 6-10 times and mean treatment session were 11.72 (Table1).

Most of the participants who took physiotherapy treatment at CRP 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 did not forget about their treatment sessions. This is a huge number. Most of the participants admitted that physiotherapists

from home who took treatment listened carefully to them. According to this study, most of the participants took physiotherapy treatment for less than 1 month (Table 2).

Among all the participants, most of the participants were medium adherent to physiotherapy treatment at 46.0%, high adherent was 39.0% and low adherent was 15.0% (Figure 1).

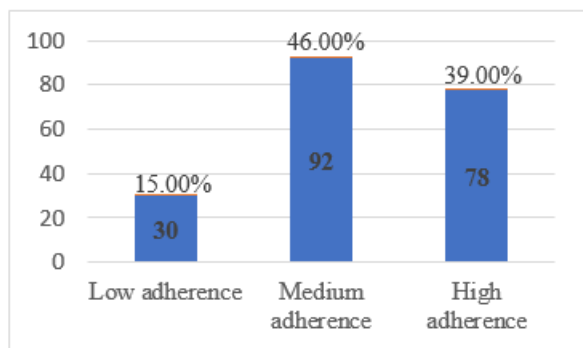
This study found a significant relationship between different socio-demographic indicators with adherence to physiotherapy treatment such as age, marital status, treatment sessions and timely arrival for physiotherapy treatment at  $p < 0.05$  by chi-square test (Table 3).

**Table 1: Received of treatment sessions**

Treatment sessions	Values
Mean	11.72
Median	10.00
Mode	7

**Table 2: Information about treatment sessions**

Variables		Frequency (Percentage)
1. Timely arrival for physiotherapy treatment	Yes	194 (97.0%)
	No	6 (3.0%)
2. Discontinued taking physiotherapy when feeling bad	Yes	9 (4.5%)
	No	191 (95.5%)
3. Forgotten to take treatment sessions	Yes	9 (4.5%)
	No	191 (95.5%)
4. Failed to take prescribed treatment sessions	1-2 times	8 (4.0%)
	3-5 times	1 (0.5%)
5. Healthcare providers (physiotherapists) listen carefully to patients	Yes, definitely	191 (95.5%)
	Yes, somewhat	9 (4.5%)
6. Receiving services from a current healthcare provider	<1 month	75 (37.5%)
	1-2 months	71 (35.5%)
	2-5 months	31 (15.5%)
	5 or more months	23 (11.5%)



**Figure 1: Adherence to prescribed home-advised physiotherapy treatment**

**Table 3: Association between socio-demographic indicators with adherence to physiotherapy treatment**

Variables	Association with	P value
Age	Adherence to physiotherapy treatment	0.00
Marital status	Adherence to physiotherapy treatment	0.00
Education	Adherence to physiotherapy treatment	0.71
Family member	Adherence to physiotherapy treatment	0.25
Monthly income	Adherence to physiotherapy treatment	0.87
Treatment sessions	Adherence to physiotherapy treatment	0.01
Timely arrival for physiotherapy	Adherence to physiotherapy treatment	0.00

## 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, treatment

sessions, and timely arrival for physiotherapy treatment were significant predictors of home-based exercise program adherence.

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,<sup>(5)</sup> regular physical activity/exercise declines with age. It showed that male patients were nearly three times more likely than female patients to adhere to home-based exercise programs.<sup>(6)</sup> This is because, 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.<sup>(7)</sup> Men in Nigeria,<sup>(8)</sup> the United States,<sup>(6)</sup> and Turkey<sup>(9)</sup> 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<sup>(10)</sup> and northwest Nigeria.<sup>(11)</sup> 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. A study 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.<sup>(12)</sup> This was supported by a Nigerian study.<sup>(8)</sup> In contrast, a study conducted in the United States<sup>(6)</sup> 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.<sup>(13)</sup> But according to a second study conducted in Egypt, employment is more likely to comply with HBEP.<sup>(5)</sup> This mismatch may result from a distinct demographic, sample size, research design, or sampling process.

This study found a 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 ( $p=0.120$ ).<sup>(8)</sup> Another study revealed a marginally significant correlation between marital status and physiotherapy treatment adherence.<sup>(5)</sup> 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.<sup>(14)</sup>

According to this study, there is a statistically significant correlation between therapy 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.<sup>(15)</sup> Participants who received at least eight 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.<sup>(16)</sup> This assured them they were motivated to participate in their workout program.

### Conclusion

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 illnesses. 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. This study found moderate adherence to the home exercise program. 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.

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