

## ORIGINAL ARTICLE

# Determination of Factors Influencing Physical Therapy Treatment Compliance

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## ABSTRACT

**Background:** Compliance to long term therapy is the extent to which a person's behavior - taking medication, following a diet or executing lifestyle changes, corresponds with agreed recommendations from a health care provider.

**Aim:** To determine the factors influencing physical therapy treatment compliance and relation of age and gender on compliance.

**Study Design:** Observational study.

**Methodology:** Study conducted for 6 months in public sector hospitals of twin cities of Pakistan. Non-probability convenient sampling technique was used. Data was collected by interviewing the patients, using self-structured questionnaire. 141 patients attending physical therapy treatment in outpatient department for more than three days and willing to participate in the study, were included in the study. Patient who visited OPD for first time, pediatric patient and indoor patients were excluded. Data was analyzed by SPSS software, version 25 as qualitative variables were expressed as frequencies and percentages.

**Results:** Most of patient could not adhere to physical therapy because of unavailability of time (60.28%), lengthy follow up (46.10%), boredom with exercise (23.4%), unavailability of respective gender (23.4%), long distance between home and hospital (20.6%), Physical contact with therapist during session (15.6%) and fear of modality (7.8%). Most patients within age group of 29-42 and 43-56 responded that frequent visits to hospital to attend multiple sessions of physical therapy were the reason they left physical therapy sessions and had unavailability of time to attend physical therapy sessions.

**Conclusion:** We concluded that frequent visits to hospital to attend multiple sessions of physical therapy and unavailability of time are two main factors that led to poor compliance to physical therapy treatment.

**Keywords:** Barriers, Compliance and Physical Therapy Treatment.

## INTRODUCTION

The participants at the WHO Adherence meeting in June 2001 defined compliance to long term therapy as the extent to which a person's behavior - taking medication, following a diet or executing lifestyle changes, corresponds with agreed recommendations from a health care provider.<sup>1</sup> For effective medical treatment or outcome treatment compliance plays a pivotal role. In physical therapy the concept of compliance is vast as it could relate regular presence at appointment day, following the advice of therapist, actively participating in prescribed exercises, following the instructions correctly regarding performance of exercise such as, either doing it less or more aggressively.<sup>2</sup> There are many factors that could result in poor compliance which encompasses both the health care provider and the patient. These factors include; Personal Barriers are the hurdles like dependency, personal beliefs, limited language proficiency, transport and distance issue and patient work or time conflicts. Financial Barriers refers to skipping of the treatment sessions due to cost. Physician-Patient Relationship play crucial role in deciding a variety of patient outcomes.<sup>3</sup> Encouraging and trusting relationship<sup>4</sup>, effective communication and Patients' trust<sup>3</sup> have positive impact to treatment compliance as well as helps the patient in complete disclosure of their problem/disease. Psychological Barriers also hinder the accomplishment of goals. Fear of modality contributes to poor compliance when there is lack of proper explanation of treatment prior to application. Mishandling of modalities like application of increased intensity of current can lead to poor compliance.

In the recent times, many studies were conducted determining the factors negatively impacting physical therapy treatment compliance. Non-compliance is a leading factor that affects the healthcare service. Sionnadh Mairi McLean et al cited that poor compliance to treatment may badly affect outcomes,

efficiency and healthcare expenditure.<sup>5</sup> Multiple factors like unawareness to illness, feeling that medication is not helpful, carelessness, discomfort with sharing their illness and feeling of getting worse with medication were prominent cause of skipping treatment.<sup>6</sup> Similarly Non compliance was also seen in physical rehabilitation departments<sup>7,8</sup>. Jack K et al worked on barriers to treatment adherence in patients getting managed in musculoskeletal physiotherapy outpatient settings and suggest strategies for reducing their impact. According to him poor compliance to treatment can have negative effects on treatment output. It is associated with low levels of physical activity at baseline, poor social support, low self-esteem, depression, anxiety, helplessness and increased pain levels during exercise.<sup>7</sup> In one of the study conducted in pulmonary rehabilitation extremes of age, current smoking and travelling distance were leading cause of non-compliance<sup>9</sup>. Medina-Mirapeix and Co worked on patient personal beliefs and perception interfering with adherence to physical therapy treatment. Beliefs and false perception about pain and illness mostly adhere with treatment sessions and outcomes and reduces efficiency<sup>10</sup>. Poor compliance can results in poor outcomes so those factors should be identified and focused while planning physical therapy treatment to maximize patient adherence towards PT treatment. At national level there is no significant literature available.

The objective of the study was to determine the factors influencing physical therapy treatment compliance and relation of age and gender on compliance.

## METHODOLOGY

Informed written consent was taken from all the participants prior to participating in this research. Identities of the participants were kept anonymous and confidentiality was maintained. We obtained permission from Ethical Review Committee. A descriptive cross sectional survey was conducted in public sector hospital in twin city of Pakistan which offers physiotherapy services in the morning

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shift only. The study was completed over duration of 6 months from in 2017 after ethical approval. Total 141 patients participated in the study. Informed consent was taken from all the patients. Both male and female patients receiving physical therapy for more than 3 days in physical therapy OPD and willing to participate were included in the study. Patient who visit OPD for first time, pediatric patient and indoor patients were excluded. Convenient non-probability sampling technique was used to collect data through close ended self-structured questionnaire from by interviewing the patients. The data was analyzed by the application of descriptive statistics.

**Statistical analysis:** After the data collection, the data was entered into SPSS version 25.0 for analysis in terms of frequencies and percentages.

## RESULTS

Out of 141 patients majority were female 53.90%. Mean age  $\pm$  SD of the patient was  $42.5 \pm 13.54$  years. Comparison between gender and age was described as table 1.

Table-1: Barriers with respect to gender to attend physical therapy sessions

Gender	Disagree	Agree	Neutral
Unavailability of time			
Male	29 (20.54%)	32 (22.69%)	4 (2.83%)
Female	31 (23.39%)	31 (23.39%)	9 (6.38%)
Frequent visits			
Males	28 (19.84%)	29 (20.39%)	8 (5.69%)
Females	20 (10.82%)	53 (37.58%)	3 (2.12%)

The barriers and limitations to physical therapy treatment were summarized in table-2. Majority (94.5%) of patient had no communication problem with their therapist. Almost a quarter of the patients were illiterate while rest of them had education up to masters' level. Neck pain was reported by 12.05%, Knee OA by 18.43%, back pain in 26.90%, sciatica in 9.21%, frozen shoulder in 17.73%, peripheral nerve injuries in 3.54%, Stroke in 4.96%, Facial palsy 4.96%, joint contractures 3.54% and 3.54% miscellaneous of participants.

Table-2: Barriers to Treatment Compliance.

Barriers to Treatment Compliance	%age
Unavailability of time	60.28
Frequent visits to hospital to attend multiple sessions	46.10
Boredom with exercise	23.4
Unavailability of respective gender	23.4
Long distance between home and hospital	20.6
Physical contact with therapist during session	15.6
Fear of modality	7.8

Barriers with respect to age categories to attend physical therapy sessions were summarized in table-3. Fear of modalities was reported by 9.21% of the patients, 20.57% were living away from physiotherapy facilities, 23.40% could not find physiotherapist gender of their choice and 93.62% participants found PT treatment affordable.

Table-3: Barriers with respect to age to attend physical therapy sessions

Age Group	Barriers	Disagree	Agree	Neutral
15-28 years	Unavailability of time	1 (0.70%)	19 (13.47%)	1 (0.70%)
	Frequent Visits	9 (6.38%)	11 (7.80%)	1 (0.70%)
29-42 years	Unavailability of time	4 (2.83%)	32 (22.69%)	0 (0.0%)
	Frequent Visits	10 (7.09%)	19 (13.47%)	7 (4.96%)
43-56 years	Unavailability of time	27 (19.14%)	27 (19.14%)	3 (2.12%)
	Frequent Visits	25 (17.70%)	26 (18.43%)	6 (4.25%)
57-70 years	Unavailability of time	15 (10.63%)	7 (4.96%)	3 (2.12%)
	Frequent Visits	13 (9.21%)	9 (6.38%)	3 (2.12%)
71-84 years	Unavailability of time	2 (1.41%)	0 (0.00%)	0 (0.00%)
	Frequent Visits	2 (1.41%)	0 (0.00%)	0 (0.00%)

## DISCUSSION

The main focus of our study was to find out the factors affecting compliance to Physical Therapy treatment in OPD. The result of this cross sectional survey has shown that unavailability of time and lengthy follow ups in treatment session are two major factors affecting the adherence to physical therapy in out-patient department of hospitals of Rawalpindi. Besides boredom with exercise, dependency, fear of electrotherapy modalities and cost of travelling to hospital are other aspects negatively affecting compliance to physical therapy treatment. Hayton, C., A. Clark, et al. study also showed that non-adherence to treatment in most of the patients is because they were living alone and were dependent to go for therapy.<sup>9</sup> In this study it is found that many patients don't have time to go for physical therapy as most of public and private sector hospitals in our respective city provide physical therapy services in morning. Patients who are working in jobs find it difficult to manage time to attend physical therapy session in morning on daily basis so they skip it. Wanunda et al found that work commitments, pain intensity in osteoarthritis and financial barriers leads to poor adherence to rehabilitation program in osteoarthritic knee patients<sup>11</sup>.

Evenson, K. R. and J. Fleury also found work time conflict as a major barrier<sup>12</sup>. Neal, R. D., M. Hussain-Gambles, et al. study also showed that patients skip their sessions due to inconvenient time in general practice of medicine.<sup>12</sup> Similarly study conducted on ACL injury patients by walker et al concluded that lack of time leads to poor adherence to exercise protocol.<sup>13</sup> Physical therapy is mostly long term and multi-session treatment that cause depression and anxiety among patients going again and again to therapy centers leading to skipping of treatment session. Kamarukwobah, E. W. worked in OPD and found patients skip their medications and patients miss their clinic due to long follow up.<sup>6</sup> Similarly Jack, K., S. M. McLean, et al. found depression and anxiety as a leading cause of skipping physical therapy sessions.<sup>7</sup> Poor adherence to treatment will ultimately lead to poor outcomes of treatment. Jack K et al (2010) worked on barriers to treatment adherence in patients getting managed in musculoskeletal physiotherapy outpatient settings and suggest strategies for reducing their impact. According to him poor adherence to treatment can have negative effects on treatment output. It is mostly associated with low levels of physical activity at baseline, poor social support, low self-esteem, depression, anxiety, helplessness and increased pain levels during exercise.<sup>7</sup> Study conducted by Santuzzi et al concluded that many factors like lack of interest in exercises, lack of motivation and time and not being able to know the benefits of exercises were the main reasons for patient not adhering to the treatment protocol.<sup>14</sup>

**Limitations:** This study was limited because some hospitals do not allow research work and data collection in their respective department so we were supposed to gather data from single hospital. Our sample size was limited. Further research on massive sample size is required to find barriers on large scale and formulate strategies to improve patient compliance and to develop strategies to cope with them. Moreover the adherence may be observed with reference to different conditions individually.

## CONCLUSION

We concluded that unavailability of time to attend the physical therapy sessions and frequent visits to hospital to attend multiple sessions are major factors affecting compliance to PT treatment in OPD. During which time most of people go for their jobs and women do household work.

**Authors' Contribution:** MNB& MK: Conception & design of study, FA& IF: Data collection & Analysis, MA&WP: Drafting of manuscript.

**HR:** Final approval and revisions.

**Conflict of Interest:** None to declare

**Financial Disclosure:** None

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