



Attitudes and Beliefs of Physiotherapists towards Chronic Low Back Pain in Rawalpindi and Islamabad: A Cross-Sectional Study

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A B S T R A C T

Background: Chronic low back pain affects 44.9% of the global population and is characterised as non-specific pain in the lower back lasting longer than three months. Patients often develop fear-avoidance behavior, which exacerbates their condition. Physiotherapists' attitudes and beliefs can influence both the treatment approach and rehabilitation outcomes for patients. Two main approaches are used in managing chronic low back pain: the biomedical approach, which focuses on pain due to physical damage, and the biopsychosocial approach, which also considers psychological and social factors.

Objective: To assess whether physiotherapists in Rawalpindi and Islamabad lean more towards the biomedical or the biopsychosocial approach in managing chronic low back pain.

Methodology: A descriptive cross-sectional study was conducted from June 2023 to June 2024. A total of 191 physiotherapists were selected via non-probability convenience sampling. The PABS-PT was employed to measure physiotherapists' attitudes and beliefs, featuring two subscales: biomedical and biopsychosocial, scored on a six-point Likert scale. Data was analysed using SPSS version 21. Descriptive statistics and graphical representations were used.

Results: Of the 191 participants, 57.6% were females and 42.4% males. 48.7% of physiotherapists attended specialised workshops for pain management. The mean biomedical score was 42.43 ± 4.97 , compared to 32.07 ± 6.56 for the biopsychosocial subscale, indicating a stronger biomedical orientation.

Conclusion: The study concluded that most physiotherapists in Rawalpindi and Islamabad have a stronger inclination towards the biomedical approach in managing chronic low back pain, compared to the biopsychosocial approach.

Keywords: Attitudes, beliefs, chronic low back pain, physical therapist

Introduction

Chronic low back pain is a medical issue that affects a large population, approximately 577.0 million cases reported globally. Persistent pain in the lower back interferes with individuals' daily activities and their quality of life. Multiple factors have contributed to the rise of chronic low back pain, including ageing of individuals and the diversification of work modes.¹ In Asia, healthcare systems and socioeconomic disparities further hinder the development of effective strategies for managing chronic low back pain effectively.²

A multitude of factors cause chronic low back pain such as musculoskeletal issues, age-related degeneration, sedentary lifestyle and psychological distress. The most common cause of chronic lower back pain is musculoskeletal

impairments, with spinal impairments as a subcategory. The risk of lower back pain increases with age due to age-related changes in the spine.³ Psychological and social factors, including stress and depression, can also result in the development of chronic low back pain. These factors can also affect the severity and time scale of symptoms. Overall, low back pain can be seen as the product of physiological, psychological and social elements.⁴

Studies show that there are two main approaches towards treating chronic low back pain: the pharmacological approach and the non-pharmacological approach. Pharmacological treatments, include Smooth muscle relaxants (SMRS) and strong opioids and non-steroidal anti-inflammatory drugs (NSAIDs), while the non-pharmacological

treatments, include physical therapy, massage therapy, spinal manipulation and motor control exercises with heat therapy.⁵ Evidence shows that early physical therapy interventions are linked with simpler future treatments and a lower risk of developing chronic low back pain.^{6, 7}

Physiotherapists treating chronic low back pain often use active, manual, and mechanical physical therapy techniques, including passive extension press-ups, progressive resistive exercise programmes, stretching, and acupuncture.⁸ Along with physical therapy, electrotherapy and hot and cold packs are also known to reduce pain and discomfort in patients. Physical therapy interventions decrease pain and improve neuromuscular performance, leading to better mobility.⁹ That is why physical therapy is used as the first line of treatment for patients with chronic low back pain.¹⁰

Physiotherapists' subjective views, opinions, and perspectives regarding pain and its management are referred to as attitudes and beliefs about pain. These perspectives and beliefs influence the physiotherapists' treatment strategies, cooperation with patients and clinical practice, which shape their perception and approach towards pain.¹¹ These views are not only tailored by their education, training and personal experience but also by their exposure to different treatment approaches. Therefore, the beliefs and attitudes about chronic lower back pain differ from therapist to therapist.

In the management of chronic lower back pain, healthcare professionals often employ two main approaches. These are the biopsychosocial and biomedical approaches. The biomedical approach is mainly upon anatomical and physiological factors that cause low back pain. The biopsychosocial approach incorporates psychosocial and social factors for pain perception and recovery. Stress, depression and anxiety are the major psychological factors that can cause pain.¹² Pain management and functional outcomes can be improved by addressing these psychosocial factors.¹³

A combination of these approaches is essential due to the complex nature of lower back pain. The most important aspects of the biomedical approach are imaging techniques and diagnostic tests. Health care professionals identify biomedical factors and then devise their treatment strategies and appropriate interventions accordingly. The biopsychosocial approach mainly relies upon interventions which include cognitive behavioral therapy, relaxation techniques and pain education. Patient-centered care is promoted with the consideration of the individual's health care, mental health, social support and lifestyle in the

biopsychosocial approach. Patient outcomes and satisfaction are greatly improved by the biopsychosocial approach.¹³

Audrey Petit et al. analyzed the views and perspectives of physical therapists (PTs) concerning the control of persistent lower back pain (LBP) and explored influencing elements in 2017. Findings indicate that elements such as age, employment status, experience in years, and specific training in LBP influence Physiotherapists' biomechanical orientation. The study underscores the impact of collaborative, multidisciplinary approaches in shaping PTs' perspectives and practices in the context of chronic LBP.¹⁴

Mansour Abdullah Alshehri et al. conducted a cross-sectional analysis in 2020 to examine physiotherapists' pain beliefs and attitudes towards persistent lower back pain and their relationship with management options. The results concluded that physiotherapists with higher biomedical scores preferred unique back exercises, electrotherapy, hydrotherapy, massage, lumbar support etc. while those with biopsychosocial treatment orientation preferred cognitive functional therapy as cure and treatment of general or non-specific chronic low back pain.¹⁵

Most of the existing literature on CLBP in Pakistan has focused primarily on the prevalence, risk factors and outcomes of patients. No study has used a validated tool such as the Pain Attitudes and Beliefs Scale for Physiotherapists (PABS-PT) to assess physiotherapists' beliefs and attitudes towards chronic low back pain. Filling this gap is critical in understanding the existing treatment approaches and improving patient care by guiding policy, resource allocation, education, and collaboration regarding chronic lower back pain.

Methodology

The purpose of this Descriptive cross-sectional study was to identify the attitudes and beliefs of physical therapists towards chronic low back pain. Data collection started after securing permission from the ethical review committee (**Approval No. FF/FUMC/215-360/Phy/23**). Data was collected from a sample of 191 physiotherapists for one year, from June 2023 to June 2024. Sample size has been calculated using RaoSoft, keeping physiotherapists of Rawalpindi and Islamabad as the targeted population. Non-probability convenience sampling was used. Data was collected from governmental tertiary care hospitals, private rehabilitation clinics, and teaching institutions located in Rawalpindi and Islamabad across twin cities to improve variability and representation within the available sample frame and reduce sampling bias.

Physiotherapists having at least 2 years of clinical experience in any govt/private setup were included in the study. Fresh graduates were excluded from the study.

The Pain Attitude and Beliefs Scale (PABS-PT) was used to examine the attitudes and beliefs of physiotherapists regarding pain and its management. The original English version of the instrument was administered, as it represents the official language of health professional education and clinical practice among physiotherapists in Pakistan. It is under use since 2003 and consists of a set of 19 items, each measured on Likert scale ("Totally disagree" = 1 to "Totally agree" = 6), with a total possible score ranging from 9 to 54 for the behavioural scale and from 10 to 60 for the biomedical one. Higher scores indicate a higher level of orientation.¹⁶ The scale has a satisfactory internal consistency as depicted by Cronbach's α coefficient of 0.84 for the biomedical factor and 0.68 for the biopsychosocial factor. The PABS-PT has reasonable validity.¹⁷

Informed consent was taken from all the participants. Pain Attitude and Belief Scale for Physical Therapists is administered after the demographics are taken. It includes questions, which are divided into two categories, the ten biomedical questions and the nine biopsychosocial questions. Data was analysed using SPSS version 21, Subscale scores demonstrated normal distribution; therefore, descriptive statistics were reported as Mean $\pm$ S.D. and represented in the form of graphs. Inferential tests and regression analysis were not used due to the exploratory nature of the study. The questionnaires were checked at the time of collection, and only complete responses were included in the final analysis; no missing data existed.

Results

Participants ages ranged from 24 years to 48 years with an average age of 28.79 $\pm$ 4.86 years. The average working experience of all the participants was 4.2 $\pm$ 3.58. Among 191 physiotherapists, 57.6% were females and 42.4% were males. Furthermore, 48.7% had acquired specialized training and certifications related to pain management. Demographics are presented in Table 1.

Table 1: Demographic statistics of participants	
Descriptive Statistics	Mean
Age	28.79 $\pm$ 4.86
Years of experience	4.16 $\pm$ 3.58
Patients with CLBP treated per week	12.12 $\pm$ 13.68
N=191	

Pain Attitudes and Beliefs scale for Physical Therapists

Biopsychosocial questions: In the case of the biopsychosocial scale, 41.9% agreed to some extent that mental stress may source back pain in the non-appearance of tissue damage while 25.7% disagreed that the source of

back pain is unknown. A substantial proportion, 38.7% agreed that a person experiencing severe back pain would feel relief from physical exercises, while 41.4% acknowledged that functional limitations caused by back pain are the outcome of psychosocial factors.

26.2% agreed that therapy could have been successful even if pain persists, meanwhile 2.6% totally disagreed that ability to manage stress facilitates recovery from back pain. 26.2% agreed that therapeutic exercises that may result in back pain stress should not be avoided during the treatment while 48.7% disagreed that there is no potent treatment to terminate back pain. Lastly, 31.9% of participants disagreed that even if the pain has exacerbated, the magnitude of the next treatment can be increased. Detailed Frequencies for Biopsychosocial subscale questions wise are presented in Table 2.

Biomedical Questions: In biomedical questions, 38.2% agreed that pain is a sensitive stimulant resulting in tissue injury, while 33% indicated that people with back pain should only perform pain-free ROMs. 38.7% agreed that back pain implies the appearance of organic injury and 37.2% participants acknowledged that if back pain increases in intensity, I amend my treatment accordingly. 30.4% implied if therapy does not diminish back pain, there is a significant risk of severe restrictions in the long term, and 29.3% participants considered that pain reduction is a prerequisite for the re-establishment of normal functioning. 29.8% of participants agreed that increasing pain shows new tissue damage, while 31.4% of participants believed that if patients complained of pain during exercise, the injury is being caused. 30.9% of participants agreed that the intensity of tissue damage distinguishes the level of pain, and 28.8% of participants emphasized that in the long run, back pain patients are more prone to developing spinal deformities. Table 3 represents detailed frequencies of biomedical questions.

Mean scores of Biopsychosocial and Biomedical questions:

The result indicates that the mean score for biomedical questions was 42.43 $\pm$ 4.97, while for biopsychosocial questions, it was 32.07 $\pm$ 6.56, indicating a stronger biomedical orientation among physical therapists in Rawalpindi and Islamabad.

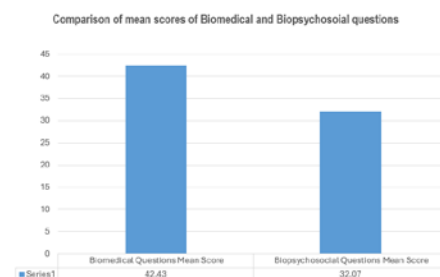


Figure 1: Biomedical and Biopsychosocial mean scores

Table 2. Frequencies and percentages for Biopsychosocial questions						
Biopsychosocial questions	totally disagree	largely disagree	disagree to some extend	agree to some extend	totally disagreed	totally agree
Mental stress can cause back pain even in the absence of tissue damage.	6 (3.1%)	9 (4.7%)	22 (11.5%)	80 (41.8%)	43 (22.5%)	31 (16.2%)
The cause of back pain is unknown	40 (20.9%)	49 (25.7%)	46 (24.1%)	32 (16.8%)	16 (8.4%)	8 (4.2%)
A patient suffering from severe back pain will benefit from physical exercise.	8 (4.2%)	10 (5.2%)	8 (4.2%)	32 (16.8%)	59 (30.9%)	74 (38.7%)
Functional limitations associated with back pain are the result of psychosocial factors.	7 (3.7%)	13 (6.8%)	31 (16.2%)	79 (41.4%)	39 (20.4%)	22 (11.5%)
Therapy may have been successful even if the pain remains.	11 (5.8%)	30 (15.7%)	35 (18.3%)	50 (26.2%)	40 (20.9%)	25 (13.1%)
Learning to cope with stress promotes recovery from back pain	5 (2.6%)	17 (8.9%)	17 (8.9%)	65 (34.0%)	57 (29.8%)	30 (15.7%)
Exercises that may be back straining should not be avoided during the treatment.	31 (16.2%)	31 (16.2%)	23 (12.0%)	50 (26.1%)	30 (15.7%)	26 (13.6%)
There is no effective treatment to eliminate back pain.	93 (48.6%)	38 (19.9%)	28 (14.6%)	15 (7.8%)	13 (6.8%)	4 (2.1%)
Even if the pain has worsened, the intensity of the next treatment can be increased.	61 (31.9%)	55 (28.7%)	24 (12.5%)	21 (10.9%)	17 (8.9%)	13 (6.8%)

Table 3: Frequencies and percentages for Biomedical Questions						
Biomedical questions	totally disagree	largely disagree	disagree to some extend	agree to some extend	largely agree	totally agree
Pain is a nociceptive stimulus, indicating tissue damage	4 (2.1%)	16 (8.3%)	7 (3.6%)	73 (38.2%)	4 (2.1%)	34 (17.8%)
If therapy does not result in a reduction in back pain, there is a high risk of severe restrictions in the long term	3 (1.5%)	19 (9.9%)	2 (1.1%)	58 (30.3%)	5 (2.6%)	30 (15.7%)
Patients with back pain should preferably practice only pain-free movements	5 (2.6%)	13 (6.8%)	23 (12.1%)	63 (32.9%)	52 (27.2%)	35 (18.3%)
Pain reduction is a precondition for the restoration of normal functioning.	6 (3.1%)	10 (5.2%)	14 (7.3%)	49 (25.6%)	56 (29.3%)	56 (29.3%)
Increased pain indicates new tissue damage or the spread of existing damage.	8 (4.1%)	13 (6.8%)	33 (17.2%)	57 (29.8%)	40 (20.9%)	40 (20.9%)
If patients complain of pain during exercise, I worry that damage is being caused.	8 (4.1%)	26 (13.6%)	43 (22.5%)	60 (31.4%)	41 (21.4%)	13 (6.8%)
If back pain increases in severity, I immediately adjust the intensity of my treatment accordingly	2 (1.1%)	7 (3.6%)	12 (6.2%)	37 (19.3%)	71 (37.1%)	62 (32.4%)
Back pain indicates the presence of organic injury	7 (3.6%)	21 (10.9%)	42 (21.9%)	74 (38.7%)	32 (16.7%)	15 (7.8%)
The severity of tissue damage determines the level of pain.	3 (1.5%)	18 (9.4%)	19 (9.9%)	59 (30.8%)	53 (27.7%)	39 (20.4%)
In the long run, patients with back pain have a higher risk of developing spinal impairments.	4 (2.0%)	19 (9.9%)	16 (8.3%)	51 (26.7%)	55 (28.8%)	46 (24.1%)

Discussion

Chronic low back pain is a prevalent musculoskeletal condition affecting millions of individuals worldwide and is a leading cause of disability, functional limitation, and reduced quality of life. The estimated worldwide occurrence of low back pain has experienced a steady rise over the years.¹⁸

We carried out this study in 2023-24 with 191 physical therapists practicing in Rawalpindi and Islamabad who were questioned about their biomedical and biopsychosocial orientations on PABS-PT, and it was found that a predominant biomedical orientation exists among practitioners in Rawalpindi and Islamabad.

In 2021, Adam Rufa et al conducted a retrospective cohort study in the USA, which revealed that physical therapists' attitudes, as measured by questionnaires, were important predictors of CLFS. The crucial role in determining patient outcomes for the management of CLBP is the point of way of thinking of the physiotherapists working on it. Similar to our study, Adam Rufa also used PABS-PT to identify the impact of perspective and point of view of physical therapists in the treatment, and a greater biomedical association was revealed.¹⁹

In 2020, Elizabeth Benny et al. conducted a cross-sectional study in Ontario, which revealed that treatment orientations of physiotherapists based on practice settings. Less experienced physiotherapists showed a higher biomedical sub-scale score, indicating a greater focus on biomedical aspects of CLBP management. This study demonstrated an overall higher biopsychosocial sub-scale score for Chronic Low Back Pain management, unlike our study. Their study used experience as a parameter, which differs from our work where experience is not the prime parameter.²⁰

A study conducted in Australia by Synnott et al, which demonstrated that cognitive behavioral therapy training improved the understanding of pain nature, and treatment approaches of physiotherapists. From this study we can see that the participants reported major differences in the way they do their practice, their overall way of thinking and understanding regarding back pain, happiness and faith in work. Their focus was greatly on Cognitive Functional Therapy Training, which was not undertaken by our physical therapists.²¹

In a study conducted by Ahmed Alhowimel et al. in 2022, the attitudes and beliefs of physical therapists and primary healthcare professionals regarding low back pain

were compared. They used a pain attitude and belief scale for physical therapists and healthcare providers. The results implied that primary healthcare providers tend to have a more biomedical perspective, while physical therapists tend to be more bio psychosocially oriented. Unlike our study, which focuses solely on the perspectives of physiotherapists, this study examined the views and beliefs of both physical therapists and healthcare providers.²²

In 2020, Mansour Abdullah Alshehri et al conducted a study in Saudi Arabia which revealed variations in the treatment preferences of physiotherapists for CLBP based on their biomedical or biopsychosocial treatment orientations. In this study, participant responses were included. The biomedical and biopsychosocial approaches towards treatment were assessed. The results of the study showed that physiotherapists who had biomedical approach towards treatments used conventional methods such as muscle exercises and TENS etc. Whereas physiotherapists who had biopsychosocial approach were more prone towards using compassion focused therapies. The focus of Mansour's study was also upon treatment options whereas we remain focused on the use of approaches.¹⁵

The views, opinions, and perspectives regarding pain and its management of physiotherapists are not only determined by their education, training and personal experience but also by their exposure to different treatment approaches. Depending on the therapists' attitudes and beliefs, they can choose from a variety of interventions including manual therapy, exercise therapy, pain education or a combination of these and consequently provide a treatment that is appropriate for the patient's health. The two main approaches, biomedical and biopsychosocial, eventually provide a holistic approach towards handling long-term low back pain for effective relief and functional mobility.

Limitations: This research includes several limitations. Convenience sampling may have resulted in the findings being less generalizable because only physiotherapists practicing in two major cities were surveyed.

Recommendations: A larger sample, including more cities in Pakistan, should be considered to improve the generalizability of the results. Further classification of treatment options opted by physical therapists in future studies to reevaluate the approach status used by physiotherapists. To facilitate a greater integration of the biopsychosocial model in therapy practices, pain neuroscience education and biopsychosocial model training should be considered as part of the undergraduate curriculum and continuing professional education of physiotherapists.

Conclusion

In Rawalpindi and Islamabad, physiotherapist practitioners have a biomedical approach to therapy when they are treating chronic lower back pain. These findings suggest that it would be beneficial for all physiotherapists to develop a greater understanding of the biopsychosocial model and to incorporate this into their practices.

Conflict of Interest: None

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Data Availability Statement: *The datasets generated and/or analysed during the current study are not publicly available due to ethical, legal, and participant confidentiality considerations but may be available from the corresponding author upon reasonable request, subject to institutional approval where applicable.*

Disclaimer: *This was part of thesis project of undergraduate degree. We as authors also want to declare that we used AI-assistant tools in this article for improving language. We authors are fully responsible for the accuracy, originality, integrity, and scientific validity of this article.*

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Author's contribution: ¹ Substantial contributions to the conception or design of the work for the acquisition, analysis or interpretation of data for the work. ²⁻⁴ Drafting the work or reviewing it critically for important intellectual content, ¹⁻⁴ Final approval of the version to be published, agreement to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

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