

ORIGINAL ARTICLE

Work Related Musculoskeletal Complications Experienced by Physical Therapists in Pakistan

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ABSTRACT

Aim: To find out the work related musculoskeletal complications experienced by the physical therapists in Pakistan.

Methods: This cross sectional study was conducted on 98 physiotherapists. To gather precise data and address challenges, a self-administered questionnaire was created for demographics. A modified version of the Nordic Questionnaire was used and to locate pain or unpleasant feelings in nine different areas of the body, including the neck, shoulders, elbows, wrists, upper back, lumbar, thighs, knees, and ankles. Utilising a non-probability convenient sampling strategy, the sample size was determined. The Lahore hospitals will be asked for written consent. Data will be gathered from various hospitals in Lahore, including Jinnah Hospital and the UOL teaching hospital.

Results: 52% reported that they have feeling trouble in neck during last 7 days. 52% have been feeling any trouble in shoulders. 47.9% have been feeling any trouble in upper back. 41.8% have been feeling any trouble in elbows. 41.8% have been feeling any trouble in wrist/ hands. 60.2% have been feeling any trouble in lower back. 29.5% have been feeling any trouble in hips/thighs. 26.5% have been feeling any trouble in knees. 30.6% have been feeling any trouble in ankles/feet.

Conclusion: Physical therapists from Pakistan frequently suffered from work-related musculoskeletal conditions, particularly in the neck, shoulders, wrist, and lower back.

Keywords: Physiotherapist, Musculoskeletal, Complications

INTRODUCTION

People who work frequently sustain injuries and musculoskeletal disorders. This is a result of their poor physical alignment, which can have a number of negative effects, including job loss, employment limits, weariness, or job change¹. The majority of downtime and associated expenditures in our nation are caused by MSDs, which are the most frequent work-related injuries².

78% of the population is afflicted by diseases and injuries. However, just 14% of them receive medical attention, and only 15% are admitted to hospitals. Medical studies show that 62% of MSD patients experience restricted movement³.

In health care settings, a number of studies have looked into occupational injuries. Most of these studies have concentrated on nurses and nurses' assistants⁴. These studies' findings suggest that between 6% and 67% of the healthcare professionals surveyed in a range of contexts have sustained a job related injuries⁵.

In the primary care context, 25% of patient complaints are related to musculoskeletal disorders⁶. However, it has been shown that doctors lack faith in their abilities to diagnose and treat these patients. Still, only around 50% of American medical schools require specific musculoskeletal therapy training, despite the recurrent accusations that it is underemphasized in medical school curricula⁷.

There is a higher risk of work-related injuries in certain occupations, such as physiotherapy and occupational therapy, due to risk causes such activity repetition, force, uncomfortable postures, and a lack of downtime⁸. According to recent data, occupational therapists and physical therapists are more likely than not to experience these disorders on a yearly basis. When it comes to therapists in the US, for instance, the prevalence of these work-related diseases climbed from 2% to 10% in 2004, from 5% to 10% in 2005, and from 5% to 13% in 2006⁴. According to research, therapists who see 15 to 20 patients in an 8-hour day run a higher risk of suffering work-related injuries⁹.

One study on physiotherapists having back pain revealed occurrence of 29% for low LBP at work. Most alarmingly, younger therapists were more common. Most often within the first four

years of experience, the initial onset took place, and the majority of initial episodes took place in acute care or rehabilitation settings. Researchers discovered a 38% yearly incidence of back pain and a 49.2% annual prevalence of LBP among physical therapists in other investigations. These studies have a flaw in that they employed various definitions of back pain, which prevented them from being directly compared¹⁰.

In 2017, Freedman and Bernstein used a standardized test to evaluate 85 physicians' understanding of musculoskeletal medicine during the starting time of their work after graduating from medical school. From total 18% doctors scored above what orthopaedic programme directors assessed to be the minimal standard required to demonstrate proficiency in care system related to primary care, with the mean score hovering around 60%¹¹.

In 2020, Lauren Cornwell and colleagues carried out a study. This study's objectives were to comprehend the kind, link, and occurrence of WRMDs among MT practitioners, investigate the connections between MT and WRMD, and ascertain the effects of WRMDs on PTs. Cross-sectional survey design was used. In all, 38.5% of PT responders who used MT reported having experienced a WRMD that was related to MT. Female respondents reported more MT-related injuries than did male respondents⁴. Even while the risk of exposure increases with time, untrained practitioners can still get hurt. More over one-third of those who took the PT review reported having WRMDs connected to MT. The results demonstrated that WRMDs might begin early in one's career and would typically develop over time. At all levels, MT educational programmes should have an emphasis on practitioner safety¹².

Amran Hossain and colleagues conducted a study in 2020 to determine the incidence of physical conditions related to the workplace at various anatomical sites and the relationship between these conditions and treatment approaches among Bangladeshi physical therapists. Physical therapists in Bangladesh were surveyed both physically and online. 300 questionnaires were distributed, and nine bodily regions were found to have work-related discomfort or pain: the neck, the shoulder, the elbow, the wrists, the upper back, the lumbar region, the thighs, the knee, and the ankle. According to the findings of this study, musculoskeletal

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issues affect 85.5% of physical therapists in Bangladesh. Among the most commonly affected tissues (7.1%), neck (25.7%), lower back (15.2%), elbow (12.3%), ankle (8.6%), and shoulder (8.6%) were the maximum frequently affected areas. There was the lowest prevalence of hip and upper back disorders (2.2% and 3.1%, respectively). The shoulder, lower back, ankle and neck regions of Bangladeshi physical therapists were more susceptible to work-related musculoskeletal conditions¹³.

Purpose of this study was to find out the work related musculoskeletal complications experienced by the physical therapists in Pakistan. Physiotherapists' musculoskeletal problems are one of the gaps in this research as there are few literature is available that explain the problems and complications for them. It was hypothesized that studying the prevalence of work-related musculoskeletal illnesses among physiotherapists in Pakistan's underdeveloped healthcare system could provide a distinct image from what is seen in the world's most developed nations. Physiotherapists face these problems due to their nature of job.

METHODOLOGY

With approval from the Institutional Ethical Review Committee, data for this cross-sectional study was gathered from the University of Lahore teaching hospital's physiotherapy department in Pakistan. Four months passed between March 30, 2023, and July 30, 2023. Using the EpiTool sample size calculator, the sample size of 98 cases was determined with a 95% confidence level. A convenient non-probabilistic sampling strategy was employed. Inclusion criteria for this study was physical therapists who practice at least one hour a day, Both gender male and female physical therapists aged 25-40 who were willing to share pain details were included. Participants with any trauma i.e. any accidental, musculoskeletal disorder history before to entering the field of physiotherapy, Rheumatologic disorders i.e., Rheumatoid arthritis, Juvenile idiopathic arthritis, Congenital disorder and any Systemic disorders i.e., Multiple sclerosis, Systemic lupus erythematosus were excluded. Aimed at the gathering of data, a Nordic questionnaire was used for the investigating the symptoms of musculoskeletal disorders faced by physical therapists in their workstation. It was also used to locate pain or unpleasant feelings in nine different areas of the body, including the neck, shoulders, elbows, wrists, upper back, lumbar, thighs, knees, and ankles. Data was collected from the physiotherapy department of The University of Lahore Teaching Hospital after the ethical consent was taken from the ethical review committee The University of Lahore (REC-UOL-137-03-2023). The SPSS-26.0 version was used to analyze the collected data for descriptive statistics. Frequency distributions were utilized to display the participant's demographic data. After the data analysis, the findings were summarized in accordance to the consultation with the statistician.

RESULTS

Mean Age of total 98 participants in this cross sectional study was

31.30. Table 1 represented pain felt in last 12 months by participants which showed 33.7% physiotherapists reported no pain in shoulders and 66.3% feels having trouble in shoulders, 34.5% have no trouble in their wrist/hands but 65.3% reported that they have trouble in their wrist/hands. 31.6% reported that they have no trouble in their lower back and 68.3% have trouble in lower back, 53% having no trouble in hip/thighs and 46.9% have trouble in their hip/thighs.

66.3% reported no pain in knees during last 12 months and 33.7% feels trouble in their knees. 64.2% having no pain in ankles/feet and 35.7% having trouble in ankles/feet. 37.7% physiotherapists have not been prevented from carrying out normal activities because of trouble they were feeling in their neck and 62.2% of physiotherapists have had neck pain that has made it impossible for them to do daily tasks. Of physiotherapists, 55.1% have said that their upper back pain has not stopped them from engaging in usual activities, and 44.9% have reported that their upper back pain has prohibited them from engaging in normal activities. 69.3% of physiotherapists and 30.6% of physiotherapists have reported that their shoulder pain has not stopped them from engaging in regular activities. 9.2% of physiotherapists said that their elbow discomfort hasn't stopped them from doing their regular tasks. 40.8% of physiotherapists report that their elbow discomfort hasn't kept them from engaging in daily tasks. 57.1% of physiotherapists report that discomfort in their wrists or hands has not stopped them from engaging in routine tasks, and 42.9% report that discomfort in their elbows has not stopped them from doing so. 37.7% and 62.2% of physiotherapists, respectively, have said that their lower back pain has not stopped them from engaging in usual activities. Although 51% of physiotherapists reported that their hip/thigh pain did not hinder them from engaging in typical activities, 49% reported that their hip/thigh pain did not block them from doing so. 39.8% of physiotherapists and 60.2% of physiotherapists have reported that their knee discomfort has not stopped them from engaging in typical activities. 69.4% and 30.6% of physiotherapists, respectively, reported that their ankle/feet pain did not stop them from engaging in usual activities. Of those surveyed, 27.6% had seen a doctor for their neck ailment, while 72.4% said they had not seen one. Only 23.4% of physiotherapists have seen a doctor for the shoulder problem, compared to 76.5% who have not. Just 29.5% of people have seen a doctor for their upper back ailment, while 70.4% have not seen one. 13.3% of people have seen a doctor for their elbow condition, compared to 86.7% who have not.

16.3% of people have seen a doctor about their wrist and hand conditions, compared to 83.7% who have not. 33.6% of people have seen a doctor for their lower back ailment, compared to 66.3% who have not. 26.5% of people have seen a doctor for their hip and thigh issues, compared to 73.4% who have not. For the condition of their knees, 78.5% of people have not seen a doctor, while 21.4% have. 24.4% of people have seen a doctor for their ankle and foot conditions, compared to 78.6% who have not.

Table 1: Pain Felt by participants during last 12 months

Variables	Yes	No
In the last 12 months had trouble (such as ache, pain, discomfort, numbness) in NECK	72.4%	27.6%
In the the last 12 months had trouble (such as ache, pain, discomfort, numbness) in Shoulders	66.3%	33.7%
During last 12 months had trouble (such as ache, pain, discomfort, numbness) in UPPER BACK	67.3%	32.7%
In the last 12 months had trouble (such as ache, pain, discomfort, numbness) in ELBOWS	23.5%	76.5%
In the last 12 months had trouble (such as ache, pain, discomfort, numbness) in WRIST/ HANDS	65.3%	34.7%
At any time in the last 12 months had trouble (such as ache, pain, discomfort, numbness) in LOWER BACK	68.4%	31.6%
In the the last 12 months had trouble (such as ache, pain, discomfort, numbness) in HIP/THIGHS	46.9%	53.1%
In the the last 12 months had trouble (such as ache, pain, discomfort, numbness) in KNEES	33.7%	66.3%
In the the last 12 months had trouble (such as ache, pain, discomfort, numbness) in ANKLES/ FEET?	35.7%	64.3%
At any time 12 months have you been prevented from carrying out normal activities (e.g. job, housework, hobbies because of this trouble in NECK	62.2%	37.8%
In the last 12 Months have you been prevented from carrying out normal activities (e.g. job, housework, hobbies because of this trouble in UPPER BACK	44.9%	55.1%
In the Last12 months have you been prevented from carrying out normal activities (e.g. job, housework, hobbies because of this trouble in SHOULDERS	69.4%	30.6%
In the last 12 months have you been prevented from carrying out normal activities (e.g. job, housework, hobbies because of this trouble in ELBOWS	40.8%	59.2%
In the Last 12 months have you been prevented from carrying out normal activities (e.g. job, housework, hobbies because of this trouble in WRISTS/HANDS	42.9%	57.1%
In the Last 12 months have you been prevented from carrying out normal activities (e.g. job, housework, hobbies because of this trouble in LOWER BACK	62.2%	37.8%
In the last12 months have you been prevented from carrying out normal activities (e.g. job, housework, hobbies because of this trouble in HIPS/THIGHS	49.0%	51.0%
In the last 12 months have you been prevented from carrying out normal activities (e.g. job, housework, hobbies because of this trouble in KNEES	39.8%	60.2%
During 12 months have you been prevented from carrying out normal activities (e.g. job, housework, hobbies because of this trouble in ANKLES/FEET	30.6%	69.4%
In last 12 months have you seen a physician for this condition of NECK	27.6%	72.4%
In the last 12 months have you seen a physician for this condition of SHOULDERS	23.5%	76.5%
In the last 12 months have you seen a physician for this condition of SHOULDERS	29.6%	70.4%
In the last 12 months have you seen a physician for this condition of ELBOWS	13.3%	86.7%
In the last 12 months have you seen a physician for this condition of WRISTS/HANDS	16.3%	83.7%
In the last 12 months have you seen a physician for this condition of LOWER BACK	33.7%	66.3%
In the the last 12 months have you seen a physician for this condition of HIPS/THIGHS	26.5%	73.5%
In the last 12 months have you seen a physician for this condition of KNEES	21.4%	78.6%
In the last 12 months have you seen a physician for this condition of ANKLES/FEET	24.5%	75.5%

DISCUSSION

This study found a remarkably high occurrence of occupational musculoskeletal disorders among physiotherapists in Pakistan who treat these issues. Work-related musculoskeletal complications are a significant concern for physical therapists due to the nature of their profession. The demanding physical requirements of providing therapeutic interventions and working with patients can put a strain on their bodies over time. This study was also done to highlight these complications which physical therapists were facing due to their over activity. In this study, 14.2% physiotherapists working 4 – 5 hours a day, 45.9% working 6 – 8 hours and 39.8% working 9 – 12 hours a day.

Physical therapists often spend long hours on their feet, performing repetitive movements and manual tasks. They may need to lift and transfer patients, maintain awkward positions, and apply manual techniques. These activities can lead to muscle fatigue, joint strain, and overuse injuries. The most commonly affected areas for physical therapists include the back, neck, shoulders, wrists, and hands. Prolonged periods of bending, reaching, and twisting while treating patients can contribute to the development of chronic pain, strains, and sprains in these areas¹⁴. In this study findings, 52% reported that they have feeling trouble in neck during last 7 days. 52% have been feeling any trouble in shoulders. 47.9% have been feeling any trouble in upper back. 41.8% have been feeling any trouble in elbows. 41.8% have been feeling any trouble in wrist/ hands. 60.2% have been feeling any trouble in lower back. 29.5% have been feeling any trouble in hips/thighs. 26.5% have been feeling any trouble in knees. 30.6% have been feeling any trouble in ankles/feet.

The neck problem, which affected 25.7% of physical therapists in Bangladesh, was the most damaging. This study found that lower back were 15.2%, elbow 12.3%, ankle 8.6%, shoulder 7.1%, and knee 6.3% injuries were significantly

more common among physical therapists in Bangladesh. The neck and lower back are the body parts most vulnerable to work-related injuries¹⁵. A physical therapist oversees the majority of the participants. According to research by Wami et al., 50.7% of Ethiopian workers have neck pain at work. Recently, Nunes et al found that 56.1% of office workers reported neck stiffness¹⁶. According to Atia et al., 67.9% of physical therapists in Egypt experienced lower back pain. Salik and Zcan estimate that 26% of Turkish physical therapists experience lower back stiffness during work¹⁷.

In conclusion, the study highlights the significant prevalence of job related musculoskeletal conditions among physiotherapists in Pakistan, with the neck, shoulders, wrist, and lower back being particularly affected areas. The findings underscore the importance of raising awareness, promoting proper body mechanics, and implementing ergonomic practices to minimize the risk of these conditions. By prioritizing the physical well-being of physical therapists, both individual professionals and the healthcare industry as a whole can work towards a safer and healthier work environment.

The study's conclusions indicate that physiotherapy is a highly danger occupation. There has been linked with musculoskeletal conditions brought on by job. Notwithstanding their understanding of risk factors and preventative measures, excellent degree of consideration and management to keep their health as physical issue specialists in a situation where therapists are vulnerable to nearly the same problems as they are. Strategic planning is necessary to reduce the possibility of injury and the onset of professional illnesses amongst physiotherapists¹⁸.

Physiotherapists' effectiveness, their way of living, working performance and well-being can all be hampered by discomfort at work. The prevalence of musculoskeletal issues puts physical therapists' physical and occupational health at grave peril. Physical therapists' importance can be explained by activity patterns,

continuing spine turning, stationary flexed position, lack of balancing breaks during the day, manual treatment delivery, and performance to overcome discomfort and abnormalities¹⁹.

CONCLUSION

Results of the current study concluded that Physical therapists from Pakistan frequently suffered from work-related musculoskeletal conditions, particularly in the neck, shoulders, wrist, and lower back.

Authorship and contribution Declaration: Each author of this article fulfilled following Criteria of Authorship:

1. Conception and design of or acquisition of data or analysis and interpretation of data.
2. Drafting the manuscript or revising it critically for important intellectual content.
3. Final approval of the version for publication.
4. All authors agree to be responsible for all aspects of their research work

Limitations:

- In this study, physical therapists were selected from a specific sample, which may not be representative of all physical therapists in Pakistan. The results could be limited in their generalizability as a result.
- The study has relied on self-reported data from physical therapists regarding their musculoskeletal complications. Self-reporting can introduce bias, such as recall bias or social desirability bias, potentially affecting the accuracy of the reported information.
- This study did not follow the physical therapists over an extended period, it might not capture the long-term impact of work-related musculoskeletal complications.

Recommendations:

- To improve the generalizability of the findings, researchers could aim for a larger and more diverse sample of physical therapists from various regions and practice settings in Pakistan. This would help capture a broader range of experiences and potential risk factors.
- Researchers should consider including a comparison group of clinical physiotherapist with academic staff.
- Investigate the specific workplace factors contributing to musculoskeletal complications, such as physical demands, workload, ergonomic conditions, availability of assistive devices, and adherence to ergonomic guidelines. Assessing these factors would help identify modifiable elements that can be targeted for intervention.

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