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PREVALENCE AND DISTRIBUTION OF MUSCULOSKELETAL PAIN DUE TO WORK AMONG CLINICAL PHYSICAL THERAPISTS

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Abstract

Objective

The objective of this study was to observe the prevalence and distribution of musculoskeletal (MSK) pain among clinical Physical therapists, considering the physically demanding nature of their profession.

Methodology

A cross-sectional study design was employed, with participants selected through a non-probability convenient sampling technique. A total of 125 clinical physiotherapists, aged between 25 and 40 years, were recruited from government hospitals in Lahore. Physiotherapists with a surgical history involving the shoulder, knee, elbow, hip, or wrist were excluded. Data were collected using the Standard Nordic Musculoskeletal Questionnaire (NMQ) and analyzed using SPSS version 25.0. Categorical variables were presented as frequencies and percentages, while continuous data were expressed as mean ± standard deviation (SD).

Results

The results obtained from the NMQ demonstrated a high prevalence of musculoskeletal pain among clinical physiotherapists. The distribution of MSK disorders was as follows: Neck pain: 28.80%, Shoulder pain: 20.00%, Elbow pain: 1.60%, Wrist pain: 0.60%, Upper back pain: 2.40%, Lower back pain: 32.00%, Thigh pain: 0.80%, Knee pain:11.20%, Foot pain: 2.40%.

Conclusion

The findings of this study indicate a high prevalence of musculoskeletal pain among clinical physiotherapists in Lahore, with the most commonly affected regions being the neck, shoulders, and lower back. The results highlight the need

for preventive measures and ergonomic interventions to minimize work-related musculoskeletal disorders among physiotherapists.

INTRODUCTION

Physical therapists have extensive knowledge in ergo metrics and injury prevention, but their risk of work-related musculoskeletal pain remains high (1). In Nigeria, the 1-year prevalence was 91.3%, low back (69.8%), and neck (34.1%) were the main involved areas(2). In Izmir, Turkey, the lifetime prevalence of WMSP in PTs was 85%, low back (26%), hand-wrist (18%), shoulders (14%), and neck (12%) were the most vulnerable, and transferring the patients was the leading maneuver to cause its occurrence (15%) (3).

Work-related problems According to the World Health Organization (WHO) meaning, multidisciplinary and work environment and productivity work contributes significantly, but in various ways causes disease. Physiotherapists are more likely to experience work related musculoskeletal pain because their practice is often repetitive, labor-intensive and direct patient contact (4).

Work related musculoskeletal problems has been found to be a universal problem causing chronic pain and physical disability affecting the modern workforce. The highest percentage of Work related musculoskeletal pain is among physical therapists. In previous literature, the prevalence of Work related musculoskeletal pain among physical therapists was 32% and the lifetime prevalence of work related musculoskeletal pain among physical therapists was 91% and 55%, respectively. Adegoke and colleagues reported an annual incidence of Work related musculoskeletal problems of 91% and 7% among Nigerian physiotherapists (5).

Period of exposure is important factor in the development of musculoskeletal problems. The total exposure period and the number of repetitions per unit of time are key determinants (e.g. Day per day or month). The skeletal system is defined by several levels factors such as: level and direction of force; time affect; The number of times a business unit timing and postural requirements (6). Some studies have reported widespread various musculoskeletal issues among health experts. The Prevalence of musculoskeletal pain is 91% among sonographers and 62% of dentists At least one musculoskeletal disease has been reported in Greece. In their study, Reilly et al. reported that it happened Musculoskeletal Disorders in Nurses and Physiotherapists this is equal to 49%. Then, Munabi et al. reported the prevalence of low back pain in nurses was 61.9%.9 Chu Chan et al. showing 22% of the bachelor's degree students experience neck pain and this is more common more common in physiotherapy and nursing in business students. Cromie et al., show musculoskeletal disorders are common in young physiotherapists. They report that it is possible patient outcomes and explanations for these outcomes transfer, prolonged static posture, and manual therapy (7).

Musculoskeletal pain (MSP) related with age and clinical experience of the therapist. For example, Campo found high prevalence in older physical therapists than younger physical therapists. In contrast, most previous studies reported that therapists had symptoms before the age of 30 (8).

Constant activation can lead to metabolic problems and fatigue, which will start degenerative processes and increase sensitivity to pain. In addition, the constant activation of these motor units can hinder muscle regeneration. Sjùgaard, Lundberg suggested that psycho social factors may keep low-threshold motor units active, and because mental stress is often more persistent than physical demands, mental stress may be an important contributor to the risk of motor unit overuse. Since mental stress has been found to have a significant effect on muscle tension, it seems likely that psycho social stress may keep low-threshold motor units active even in the absence of physical activity, such as during work breaks or after work (9).

In physiotherapy, the personal involvement of patients and family members is high. In addition, contact is maintained for a long time due to the frequency of interventions in long-term or chronic pathological conditions.12 Stress can cause psychological changes that result in numerous adverse effects on the individual, such as reduced competence, reduced initiative, loss of responsibility,

and less concern. Both for work colleagues and for the organization as a whole. In addition, stress changes the physical condition of an individual. The changes that occur in the muscle structures can cause pain and discomfort, resulting in the individual having difficulty concentrating on work tasks due to the lack of comfort. If stress is not dealt with immediately, its physical and psychological effects, which subsequently lead to psychological and physical changes, can stop an individual from working at optimal performance (10).

Despite the physically demanding nature of clinical physiotherapy, there is a noticeable lack of specific data regarding the prevalence of work related musculoskeletal pain among clinical physiotherapists in Lahore, Pakistan. This study seeks to bridge this critical knowledge gap by conducting a comprehensive investigation regarding musculoskeletal pain in clinical physiotherapists.

METHODOLOGY

An observational cross-sectional study design was used. In this study, a total sample of 125 clinical physiotherapists aged between 25 and 40 years was selected from a government hospital in Lahore. Non Probability Convenient sampling technique was followed. Both male and female physiotherapists participated in the study. Clinical physiotherapy professionals with a minimum of 2 years of experience, aged between 25 and 40 years, and working a minimum of 6 to 8 hours per day were included in the study. Physiotherapists with a previous surgical history of the shoulder, elbow, hip, or knee were not included. A non-probability convenient sampling technique was used. Informed consent forms were obtained from research participants before data collection commenced. The Standard Nordic Musculoskeletal Questionnaire was used as an outcome measurement tool. SPSS version 25.0 was used to analyze the data. Categorical variables were analyzed using frequency and percentage, while mean ± standard deviation was used for continuous data

RESULTS

Table 1 Statistics of age

Statistics of age	
N	125
Mean	31.6880
Median	32.0000
Std. Deviation	3.82778
Minimum	25.00
Maximum	40.00

In current table statistics of age is mention in which 125 physiotherapists participated with their mean age (years) 31.68±3.82 SD. Minimum age was 25 years while maximum age of participants was 40 years.

Table 14 MSK PAIN

MSK Pain		
	Frequency	Percent
Neck pain	36	28.8
Shoulder pain	25	20.0
Elbow pain	2	1.6
Wrist pain	1	.8
Upper back	3	2.4
Lower back	40	32.0
Thigh pain	1	.8
Knee pain	14	11.2

Feet pain	3	2.4
Total	125	100.0

In current table prevalence of MSK disorders in physiotherapists is mention in which 36 had neck pain, 25 had shoulder pain, 2 had elbow pain, 1 had wrist pain, 3 said they had upper back pain, 40 said they had lower back pain, 1 said thigh pain, 14 had knee pain while 3 had feet pain.

DISCUSSION

The findings of this study highlight a significant prevalence of musculoskeletal pain among clinical physiotherapists in Lahore, particularly in the neck, shoulder, and lower back regions. These results are consistent with previous studies conducted in different regions.

Marks et al. (2017) conducted a study on musculoskeletal disorders among physiotherapists, reporting that 30% of physiotherapists experienced neck pain, 20% had shoulder pain, 32% suffered from lower back pain, and 11% reported knee pain. These findings align closely with the results of the current study, suggesting that physiotherapists worldwide are at a similar risk for musculoskeletal disorders due to the physically demanding nature of their profession (11).

Conversely, a study by Mani et al. found that 40% of physiotherapists reported neck pain, 30% had shoulder pain, 22% suffered from lower back pain, and 8% experienced knee pain. The differences observed in this study compared to our findings may be attributed to variations in workplace ergonomics, workload intensity, and preventive strategies implemented across different healthcare settings (12). The high prevalence of lower back pain (32%) in the present study underscores the necessity of ergonomic interventions and preventive measures to reduce the occupational strain faced by physiotherapists. Studies suggest that adopting proper postural techniques, taking frequent breaks, and engaging in regular physical conditioning may help mitigate the risk of musculoskeletal pain (13).

Future research should focus on longitudinal studies to assess long-term impacts and intervention effectiveness in reducing musculoskeletal disorders among physiotherapists. Additionally, implementing workplace modifications and awareness programs may play a crucial role in addressing this prevalent occupational health issue.

CONCLUSION

This study shows that there is a high prevalence of musculoskeletal pain among clinical physiotherapists especially in neck, shoulder and lower back region.

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