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PREVALENCE OF MUSCULOSKELETAL PAIN AND STRESS AMONG PHYSIOTHERAPISTS: OBSERVATIONAL STUDY

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ABSTRACT

Back Ground of the Study: Musculoskeletal disorders (MSDs) involve muscular pain or injuries to the body's support system due to single or cumulative trauma, impacting daily activities and leading to long-term pain, disability, and reduced quality of life. Physiotherapy is a key healthcare profession focused on enhancing people's movement and function. The nature of physiotherapy includes various physical activities, such as pushing, pulling, lifting, and bending, which can put physiotherapists at risk of accidents and injuries. The purpose of this study is to determine the prevalence of work-related musculoskeletal disorders (WRMSDs) among working physiotherapists and to explore the association between WRMSDs and mental health. **Methodology:** This study utilized a Google Form that included two questionnaires: the Nordic Musculoskeletal Questionnaire for assessing musculoskeletal disorders and the Perceived Stress Scale for evaluating mental health. **Results:** The prevalence of work-related musculoskeletal disorders among physiotherapists was found to be 82%. The findings indicate that the low back and neck are the most commonly affected areas, followed by the upper back and thighs. Additionally, a significant association was found between work-related musculoskeletal disorders and quality of life. **Conclusions:** Work-related musculoskeletal disorders pose a significant health risk within the physiotherapy profession. It is recommended that educational programs focusing on prevention and coping strategies for musculoskeletal symptoms be made mandatory for physiotherapists. Such initiatives could help reduce the risk of WRMSDs and ultimately improve their quality of life.

Keywords: Musculoskeletal disorders, Nordic Musculoskeletal Questionnaire, movement and function

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INTRODUCTION

A work-related disorder, as defined by the World Health Organization (WHO), is multifactorial, meaning that various factors contribute to the onset of the disease, with the work environment and the nature of work playing significant roles to varying degrees. Work-related musculoskeletal disorders (WRMD) cause chronic pain and functional impairment for millions of individuals, leading to significant societal costs associated with treatment, sick leave, and retirement, and they also reduce productivity in the workplace^{1,2}.

WRMDs are prevalent across various professions, particularly in health care fields such as nursing, dentistry, and physical therapy (PT), where risk factors include heavy physical work, repeated lifting and handling of loads, awkward postures (such as bending and twisting), repetitive joint movements, the use of high-frequency vibration tools, psychological stress, and prolonged static body positions^{3,4}.

Physical therapy services are designed to support individuals and populations in developing, maintaining, and restoring maximum movement and ability throughout their lifespan. This specialty focuses on identifying and maximizing quality of life and movement potential within the realms of promotion, prevention, treatment, and rehabilitation, addressing physical, psychological, emotional, and social well-being^{5,6}.

On a typical day, a physiotherapist examines a patient's medical history and assesses various aspects, including strength, range of motion, balance and coordination, posture,

muscle performance, respiration, and motor function. They evaluate whether a patient can function independently and assist them in reintegrating into the community or workplace following injury or illness. A treatment plan is then developed, outlining the strategy, purpose, and anticipated outcomes of therapy⁷.

However, during their working hours, physiotherapists often engage in long hours of strenuous activities and maintain prolonged static postures, leading to physiological changes that can result in back, neck, or shoulder pain. If recurring pain or discomfort is ignored, cumulative damage can lead to serious injuries. WRMDs have been frequently reported among physiotherapists globally, yet few studies have investigated the prevalence of musculoskeletal issues in physiotherapy students, particularly in India. Therefore, this study aims to assess the prevalence of musculoskeletal problems among physiotherapists around Komarapalayam, Namakkal and Erode^{8,9}.

MATERIALS AND METHODS

A cross-sectional survey was conducted among 80 physiotherapists aged 30 to 50 years, both male and female, who are undergraduate physiotherapists from surrounding areas. The study involved administering a self-designed questionnaire to gather information regarding the musculoskeletal problems faced by physiotherapists, including the various postures adopted and activities performed throughout the day. The Extended Nordic Questionnaire was also utilized to quantify musculoskeletal pain and activity limitation in nine body regions.

Data Analysis and Results: The survey engaged 80 physiotherapists, all of whom reported musculoskeletal problems that interfered with

their work and required professional consultation.

SI.NO	Mechanism of Injury	Frequency	Percentage
1	Applying modalities	4	5
2	Transferring patient	5	6.25
3	Performing repetitive tasks	5	6.25
4	Working overtime	4	5
5	Performing manual therapy technique	12	15
6	Maintaining a static position for a prolonged period of time	16	20
7	Working in awkward position	20	25

Table 1: Mechanism of Injury

Prevalence of WRMSD according to the affected area			
SI.No	Area of the body affected	Frequency	Percentage
1	Neck	30	37.5
2	Upper back	15	18.75
3	Lower back	20	25
4	Knee/Thigh	2	2.5
5	Elbow	2	2.5
6	Wrist	8	10
7	Ankle	6	7.5
8	Hip	7	3.75
9	Shoulder	18	22.5

Table 2: Area of the body affected

S.no	Stress level	No of Therapists	Percentage
1	Low	6	7.5
2	Moderate	42	52.5
3	High	32	40.0

Table 3: Stress level

RESULTS

The findings from the Perceived Stress Scale (PSS) indicate that a significant proportion of the physiotherapists surveyed experienced moderate to high levels of stress. Specifically, 52.5% of participants fell into the moderate stress category, while 40% reported high stress, and only 7.5% reported low stress levels. When analyzed in relation to the prevalence of work-related musculoskeletal disorders (WRMSDs), a clear association emerged. Among those with high stress levels, 90.6% reported experiencing WRMSDs, compared to 83.3% in the moderate group and only 33.3% in the low-stress group. The high incidence of WRMSDs (82.5% overall) highlights the urgent need for interventions targeting both physical and psychological well-being in physiotherapy practice. Elevated stress levels may exacerbate physical strain or reduce coping ability, potentially increasing vulnerability to injury. These findings support the integration of stress management and ergonomic strategies within workplace wellness programs to reduce the dual burden of psychological stress and musculoskeletal disorders among physiotherapists. These symptoms ranged from mild discomfort and fatigue to more severe conditions requiring medical attention, including hospitalization and rehabilitation.

DISCUSSION

The aim of our study was to report the prevalence of common musculoskeletal issues among physiotherapists studying in Komarapalayam, India. Our sample consisted of 80 physiotherapists who met the inclusion and exclusion criteria for the study. Of the participants, 83% were male and 17% were female, with an average age range of 30 to 50 years. Furthermore, 82.4% identified as right-handed, while 17.6% identified as left-handed.

The first objective of our study was to assess the most common musculoskeletal problems experienced by physiotherapists. The results showed a high prevalence of WRMDs among physiotherapists, with at least 70.1% of respondents reporting some level of musculoskeletal pain after entering the profession. These issues ranged from minor discomfort and aches to more serious medical conditions requiring intervention, hospitalization, and rehabilitation. According to the findings, a majority of physiotherapists noted a lack of adequate breaks and the use of non-adjustable plinths and chairs as contributing factors¹⁰⁻¹³.

During their working hours, physiotherapists often endure long hours of strenuous activities which include heavy lifting, handling loads, maintaining awkward postures, repetitive joint

movements, using high-frequency vibration tools, experiencing psychological stress, and enduring prolonged static body positions. These factors collectively contribute to the onset of WRMDs. The second objective was to identify the stress associated with daily activities¹⁴⁻¹⁸.

CONCLUSION

Musculoskeletal pain and occupational stress represent significant and persistent health concerns for physiotherapists, often emerging early in their careers and negatively affecting both personal well-being and professional performance. The physical demands of patient handling, combined with high workloads and psychosocial pressures, create a challenging work environment that places practitioners at heightened risk of injury and burnout. Addressing these issues requires a multifaceted approach that integrates preventive education, ergonomic interventions, organizational support, and effective coping strategies. By prioritizing the health and resilience of physiotherapists, the profession can not only safeguard the longevity and quality of its workforce but also ensure the delivery of safe, effective, and sustainable patient care.

REFERENCES

1. Proceedings of the International Symposium on Work-Related Diseases. Espoo, Finland, 4-8 June 1984. *Scand J Work Environ Health* 1984; 10(6):341-519.
2. Andersson GB. Epidemiological features of chronic low back pain. *Lancet*. 1999;354(9178):581-5, [http://dx.doi.org/10.1016/S0140-6736\(99\)01312-4](http://dx.doi.org/10.1016/S0140-6736(99)01312-4).
3. Szymanska J. Disorders of the musculoskeletal system among dentists from the aspect of ergonomics and prophylaxis. *Ann Agric Environ Med*. 2002;9(2):169-73.
4. Akesson I, Lundborg G, Horstmann V, Skerfving S. Neuropathy in female physiotherapist personnel exposed to ergonomical back pain. *J Occup Environ Med*. 1995;52(2): 116-23.
5. West DJ, Gardner D. Occupational injuries of physiotherapists in North and Central Queensland. *Aust J Physiother*. 2001;47(3):179-86, [http://dx.doi.org/10.1016/S00049514\(14\)60265-8](http://dx.doi.org/10.1016/S00049514(14)60265-8).
6. Coenen P, Kingma I, Boot CR, Twisk JW, Bongers PM, van Dieen JH. Cumulative low back load at work as a risk factor of low back pain: A prospective cohort study. *J Occup Rehabil*. 2013;23(1):11-8, <http://dx.doi.org/10.1007/s10926-012-9375-z>.
7. Dawson AP, Steele EJ, Hodges PW, Stewart S. Development and test-retest reliability of an extended version of the Nordic Musculoskeletal Questionnaire (NMQ-E): a screening instrument for musculoskeletal pain. *The Journal of Pain*. 2009 May 1; 10(5):517-26.
8. Pugh JD, Gelder L, Williams AM, Twigg DE, Wilkinson AM, Blazeovich AJ. Validity and reliability of an online extended version of the Nordic Musculoskeletal Questionnaire (NMQ-E2) to measure nurses'
9. Buddhadev NP. Work-related musculoskeletal disorders: a survey of physiotherapists in Saurashtra region. *Age (years)*. 2012;21(25):27-5.
10. Salleh NF, Sukadarin EH, Zakaria J. Preliminary study of musculoskeletal complaints and ergonomic risk factors among catering workers. *Asia Pacific*

- Environmental and Occupational Health Journal. 2017 Aug 18;3(1).
11. Gebreyesus T, Nigussie K, Gashaw M, Janakiraman B. The prevalence and risk factors of work-related musculoskeletal disorders among adults in Ethiopia: a study protocol for extending a systematic review with meta-analysis of observational studies. *Systematic reviews*. 2020 Dec;9(1):1-6.
 12. Bae YH, Min KS. Associations between work-related musculoskeletal disorders, quality of life, and workplace stress in physical therapists. *Industrial health*. 2016 Jul 31; 54(4):347-53.
 13. Crawford JO. The Nordic musculoskeletal questionnaire. *Occupational medicine*. 2007 Jun 1;57(4):300-1
 14. Montazeri A, Harirchi AM, Shariati M, Garmaroudi G, Ebadi M, Fateh A. The 12-item General Health Questionnaire (GHQ-15): translation and validation study of the Iranian version. *Health and quality of life outcomes*. 2003 Dec;1(1):1-4.
 15. Thadathil SE, Jose R, Varghese S. Assessment of domain wise quality of life among elderly population using WHOBREF scale and its determinants in a rural setting of Kerala. *International Journal of Current Medical and Applied Sciences*. 2015 Jun;7(1):43-6.
 16. Maheshwari P, Soni R, Parkash N. Work Related Musculoskeletal Disorders: A Survey of Physiotherapists in Tricity. *International Journal of Physiotherapy*. 2015 Dec 1;2(6):1091-6.
 17. Batham C, Yasobant S. A risk assessment study on work-related musculoskeletal disorders among dentists in Bhopal, India. *Indian Journal of Dental Research*. 2016; 27(3):236.
 18. Holder NL, Clark HA, DiBlasio JM, Hughes CL, Scherpf JW, Harding L, et al. Cause, prevalence, and response to occupational musculoskeletal injuries reported by physical therapists and physical therapist assistants. *Physical therapy*. 1999;79(7):642-52.

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