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Prevalence of Musculoskeletal Pain in Physiotherapy Students Across Ahmedabad City

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ABSTRACT

BACKGROUND: Musculoskeletal pain (MSP) is a prevalent issue among physiotherapy students due to prolonged study hours, clinical training, and excessive screen time. Poor posture, high academic workload, and repetitive physical tasks contribute to the development of pain in various body regions. Despite being future healthcare professionals, physiotherapy students often neglect their own musculoskeletal health. This study aims to assess the prevalence, distribution, and associated risk factors of MSP among physiotherapy students across Ahmedabad city. The present study therefore aims to study the prevalence of musculoskeletal problems in physiotherapy students in Ahmedabad, India.
OBJECTIVE: To find the prevalence of musculoskeletal pain in physiotherapy students across Ahmedabad city.
METHODOLOGY: An observational study was conducted among 200 physiotherapy students of the age group 18-26 years of age, under-graduate and post-graduate students, as well as interns, both males and females. The study was conducted using a self-designed questionnaire emphasizing on the incidence, duration of pain, various postures which cause pain, segments affected and factors which aggravates and relieves pain.
RESULTS: Out of 200 students, 170 (85%) students experienced musculoskeletal pain after joining the physical therapy profession.
CONCLUSION: Out of the total study population, low back pain (56.5%), neck (38%) and upper back (38.5%) were the most common sites of pain.

Keywords: Musculoskeletal pain, Physiotherapy students, Ahmedabad city

INTRODUCTION

Musculoskeletal disorders (MSDs) are one of the leading occupational health concerns among healthcare professionals, particularly physiotherapists. These disorders encompass a wide range of conditions affecting muscles, bones, tendons, ligaments, and other soft tissues, often leading to chronic pain and functional impairments. The World Health Organization (WHO) defines work-related musculoskeletal disorders as multifactorial conditions where work environment and performance contribute significantly to their causation. Physiotherapists and physiotherapy students are highly susceptible to these disorders due to the physically demanding nature of their profession, which involves patient handling, repetitive movements, and prolonged awkward postures [1,2]. Recent studies have indicated a high prevalence of musculoskeletal pain (MSP) among physiotherapy students, suggesting that their

training period poses significant ergonomic and occupational hazards. Research conducted among undergraduate physiotherapy and occupational therapy students in South Africa found that 89.7% reported MSP in the previous 12 months, with the neck (66.2%) and lower back (64.4%) being the most affected regions [3]. Similarly, a study in Navi Mumbai, India, revealed that 70.1% of physiotherapy students experienced MSP after entering the profession, with the most common sites being the lower back, neck, shoulders, and upper back [4]. These findings suggest that physiotherapy students, like trained professionals, face substantial risks due to prolonged static postures, bending, lifting, and other biomechanical stressors [5]. The risk factors for musculoskeletal pain among physiotherapy students are often attributed to poor ergonomics, inadequate physical conditioning, and extensive clinical training in challenging environments. Prolonged sitting, repetitive manual therapy techniques, and awkward positioning during patient interactions further exacerbate the risk of developing chronic pain conditions. A cross-sectional study in India reported that nearly 52% of physiotherapy students experienced MSP, with 48% suffering from low back pain, 16% from neck and upper back pain, and others reporting knee and foot pain [6]. These statistics underscore the importance of assessing the prevalence of MSP among physiotherapy students and implementing preventive strategies to mitigate their impact on professional practice and overall well-being [7,8]. Ahmedabad, being a major educational and healthcare hub in India, has a growing number of physiotherapy institutions. However, limited research has been conducted on the prevalence of MSP among physiotherapy students in this region. Understanding the extent and patterns of musculoskeletal pain in this population is essential for designing targeted interventions, improving ergonomics in training, and ensuring better musculoskeletal health among future physiotherapists. This study aims to evaluate the prevalence of MSP among physiotherapy students across Ahmedabad city and identify the key contributing factors, providing a foundation for preventive and rehabilitative measures within academic institutions and clinical settings [9,10].

MATERIALS & METHODS

An online survey was conducted among 200 Physiotherapy students from multiple physiotherapy colleges including Undergraduates, Interns and Post-graduate students, aged from 18 – 26 years, males and females. The study was carried out by directing a self-designed questionnaire in order to retrieve information regarding the various postures, type duration of pain including their demographic data which encompasses their age, sex, year of course. NPRS was also used in order to quantify pain in various segments.

INCLUSION CRITERIA –

1) Physiotherapy students – undergraduates, interns, post-graduates
2) Age – 18-26 years old
3) Male and female
4) Willing to participate

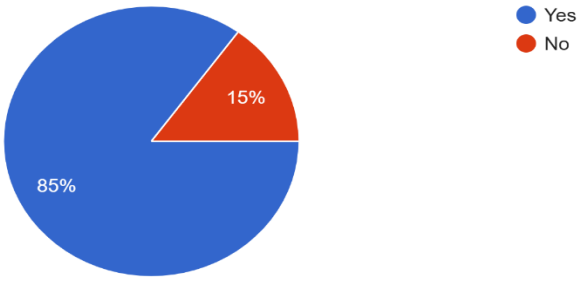
EXCLUSION CRITERIA-

1) Unwilling to participate
2) Pre-existing musculoskeletal disorder, fracture
3) Participants who did not complete the survey

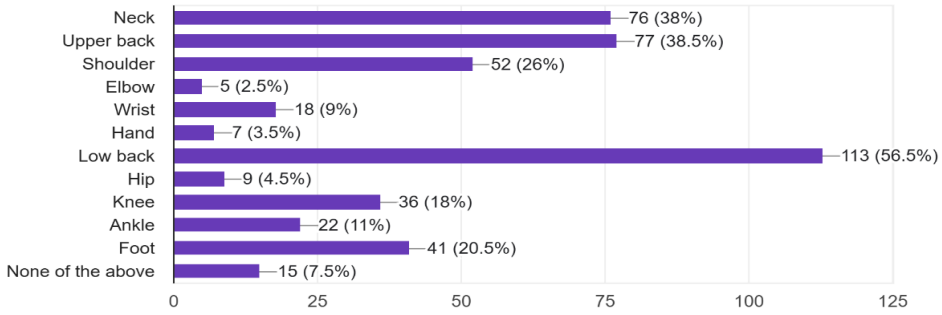
STATISTICAL ANALYSIS AND RESULTS

The data was analysed using Microsoft Excel 2007.

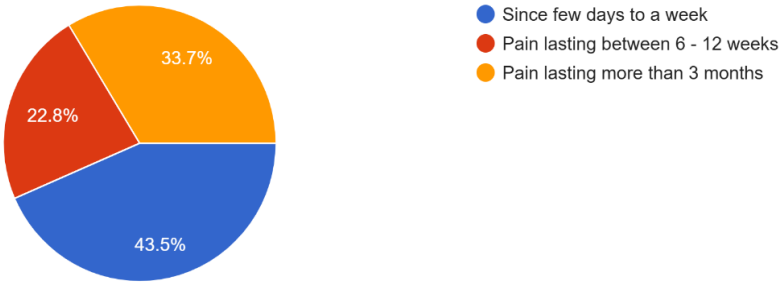
GRAPH 1: PRESENCE OF PAIN
Interpretation: 85% students reported Musculoskeletal Pain



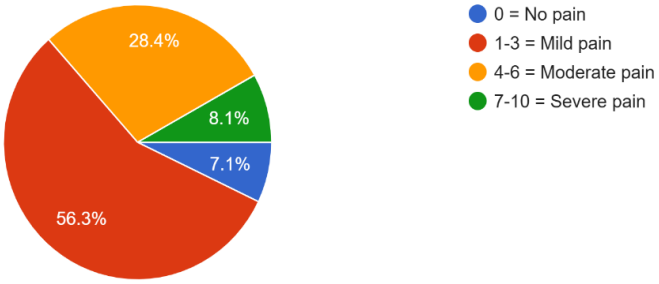
GRAPH 2: BODY SEGMENTS AFFECTED DUE TO MUSCULOSKELETAL PAIN
Interpretation: Low back pain(56.5%) was most commonly affected region followed by upper back(38.5%) and neck(38%).



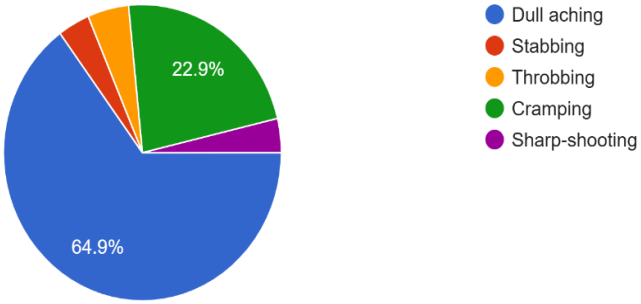
GRAPH 3: SHOWS THE DURATION OF MUSCULOSKELETAL PAIN
Interpretation: Around 43.5% students felt pain since few days to week. And, 33.7% students felt pain lasting more than 3 months.



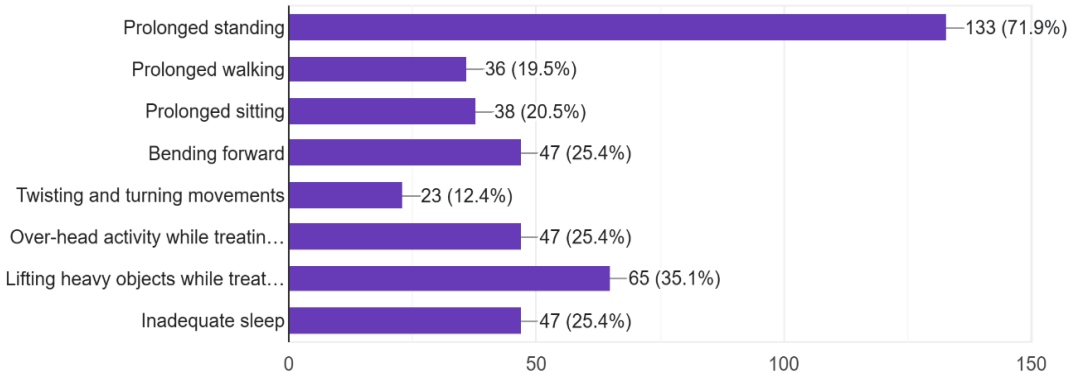
GRAPH 4: SEVERITY OF PAIN
Interpretation: Mild pain was felt by 56.3% students.



GRAPH 5: TYPE OF PAIN
Interpretation: Dull-aching pain(64.9%) was the most common type of pain.



GRAPH 5: FACTORS AGGRAVATING MUSCULOSKELETAL PAIN
Interpretation: Prolonged standing(71.9%), lifting heavy objects while treating patients(35.1%) were the common aggravating factors for musculoskeletal pain.



DISCUSSION

Musculoskeletal pain is a prevalent concern among physiotherapy students, as evidenced by various studies conducted across different regions. The prevalence of musculoskeletal pain among students in Ahmedabad is likely influenced by several factors, including prolonged study hours, clinical training, patient handling, and poor ergonomic practices. While specific data from Ahmedabad is limited, findings from similar studies provide insight into the musculoskeletal challenges faced by physiotherapy students.

While there is limited direct data on Ahmedabad, studies from other regions provide useful insights. A study conducted in Surat, Gujarat, found that 29.1% of physiotherapy students experienced lower back pain, 13.4% had neck pain, and 13.8% reported pain in the lower legs over a six-month period (Patel. Et al, 2018). Similarly, a study conducted during the COVID-19 pandemic reported a 64.4% prevalence of musculoskeletal disorders among college students, with the lower back (38%), neck (36.4%), and shoulders (27.2%) being the most affected regions (Chaudhary, et al.,2021).

The high prevalence of MSP among physiotherapy students can be attributed to various factors, including prolonged standing during practical sessions, patient handling, manual therapy techniques, and maintaining awkward postures during clinical practice. These factors contribute to overuse injuries and biomechanical stress, leading to discomfort and pain.

Physiotherapy students are exposed to prolonged standing, awkward postures, manual therapy techniques, and patient handling, all of which contribute to the

development of musculoskeletal pain. Poor ergonomic practices, lack of awareness about posture correction, and long hours of clinical training further exacerbate these issues. A study by Pathak et al. (2023) on physiotherapists in Ahmedabad found a 56.83% prevalence of foot and ankle pain, highlighting the physical demands of the profession and the need for ergonomic interventions.

Musculoskeletal pain can negatively impact a student's academic performance and clinical skills. Persistent pain may lead to reduced concentration, decreased efficiency in practical sessions, and long-term physical impairments. If left unaddressed, these issues could continue into professional practice, affecting the quality of patient care provided by physiotherapists.

Several modifiable risk factors contribute to MSP among physiotherapy students, including poor ergonomics, inadequate physical conditioning, and a lack of awareness regarding injury prevention techniques. Addressing these factors through postural correction training, ergonomic modifications, and strengthening exercises can help reduce the incidence of MSP. Additionally, incorporating regular breaks during study sessions and practical work, proper lifting techniques, and early intervention for pain management can significantly improve students' musculoskeletal health.

CONCLUSION

Most Physiotherapy students experienced musculoskeletal pain where low back pain was most commonly reported to be the affected segment followed by neck, upper back. Aggravating factors like prolonged standing, lifting heavy objects while treating patients in forward bending posture was found to be a causative factor for musculoskeletal pain.

Declaration by Authors

Ethical Approval: Approved

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Conflict of Interest: The authors declare no conflict of interest.

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