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Prevalence of musculoskeletal problems in physiotherapy undergraduates

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Abstract

Background: Musculoskeletal injuries are increasingly common among physiotherapy students due to the physical demands of their training. Factors such as prolonged standing, repetitive movements, manual handling of patients, and poor ergonomics during clinical practice contribute to the rising incidence of musculoskeletal complaints.

Aim: This study aims to determine the prevalence of musculoskeletal problems among physiotherapy students.

Materials and methodology: A cross-sectional survey was conducted with 200 undergraduate physiotherapy students (ages 18-24) of both genders. The Extended Nordic Musculoskeletal Questionnaire was utilized to assess musculoskeletal pain and activity limitations across nine body regions.

Results: Among the participants, 86% reported experiencing musculoskeletal pain. The most commonly affected areas were the neck (45%), lower back (14%), and shoulders (12%).

Conclusion: The findings indicate a high prevalence of musculoskeletal issues among physiotherapy students, with a notably higher incidence observed in female students. This underscores the need for preventive strategies and ergonomic education to mitigate these risks.

Keywords: Physiotherapy students, extended Nordic questionnaire, musculoskeletal pian

Introduction

Work-related disorders, as defined by the World Health Organization (WHO), are multifactorial conditions in which the work environment and job performance significantly contribute to their onset [1]. Musculoskeletal disorders (MSDs) encompass a range of muscular pain or injuries affecting the human support system, resulting from damage to muscles, bones, ligaments, tendons, and blood vessels due to single events or cumulative trauma. These disorders can severely impact daily activities [2].

MSDs can affect an individual's ability and effectiveness, leading to decreased well-being and productivity, increased absenteeism, and reduced work quality. They can cause pain in various areas, including the neck, shoulders, arms, wrists, hands, upper and lower back, hips, knees, and feet [2].

Work-related musculoskeletal disorders impose chronic pain and functional impairments on millions of people, incurring substantial societal costs related to treatment, sick leave, and retirement, while also diminishing workplace productivity. Various professions, especially in healthcare—such as nursing, dentistry, and physical therapy—are notably at risk for developing these disorders. Physiotherapists, in particular, face a high risk of work-related musculoskeletal disorders (WMSDs), with the low back being the most commonly affected area, followed by the neck, upper back, shoulders, wrists, knees, and other joints [3].

Physiotherapists are primary healthcare professionals who assess and treat individuals of all ages with medical conditions that limit their functional abilities. On a typical day, physiotherapy students evaluate patients' medical histories, conduct strength and range-of-motion tests, assess balance and coordination, and determine independence levels to facilitate reintegration into daily activities or the workplace after injury or illness [1, 2, 3].

The nature of physiotherapy work is physically demanding, involving repetitive tasks, lifting, awkward postures (such as bending and twisting), and prolonged static positions. Students often endure long hours of strenuous activity during their training, which can predispose them to musculoskeletal issues. Exposure to such activities begins during undergraduate education, making MSDs a likely occurrence among physiotherapy students [1, 5, 6, 8]. Regularly occurring pain or discomfort, if ignored, can lead to cumulative physiological damage and significant injuries.

While comprehensive studies on WMSDs in physical therapy have documented prevalence rates across various body regions—most notably a 45% prevalence in the low back—there is a lack of research specifically focusing on the prevalence of musculoskeletal problems among physiotherapy students, particularly in India [7, 1].

The present study aims to evaluate the prevalence of musculoskeletal problems in physiotherapy students using the Extended Nordic Musculoskeletal Questionnaire to assess pain and activity limitations across nine body regions.

Study procedure

In this study, 200 undergraduate physiotherapy students (both males and females, age group 18-24years) were selected and provided with a questionnaire after obtaining their consent. Demographic data, including name, age, and gender of each participant, were recorded. The Extended Nordic Musculoskeletal Questionnaire was utilized as the outcome measure. The questionnaire was distributed as a printed form to the participants. Based on the questionnaire results, the percentage of participants reporting pain was calculated.

Results

Participants in this study were undergraduate physiotherapy students aged 18 to 24 years. The distribution of pain among the study population was assessed using the Extended Nordic Musculoskeletal Questionnaire.

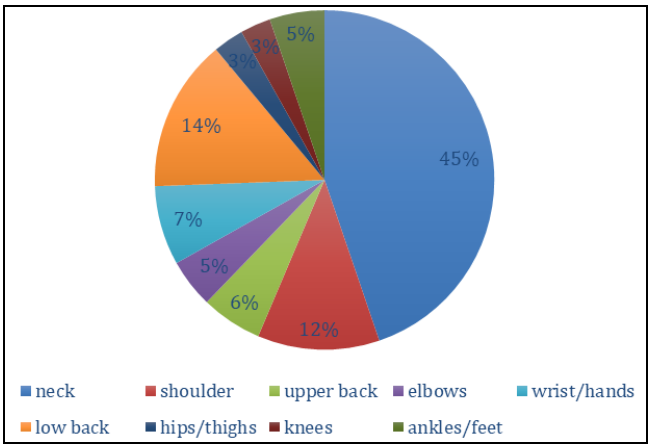

Fig 1

The findings indicate that the prevalence of musculoskeletal problems among physiotherapy students is 86%. All participants were within the age range of 18 to 24 years, with the majority being 21 years old. The above data (fig 1) shows 45% students had neck pain followed by low back pain (14%) and shoulder Pain (12%).

Discussion

The purpose of this study was to determine the prevalence of musculoskeletal problems in physiotherapy students. Musculoskeletal disorders are common conditions affecting the adult population, impacting muscles, bones, and joints. The risk of developing these disorders typically increases with age, and their severity can vary, with some cases causing pain and discomfort that interfere with daily activities.

In this study, 200 physiotherapy students aged 18 to 24 were included based on proper screening and adherence to inclusion and exclusion criteria. The Extended Nordic Musculoskeletal Questionnaire was utilized as the primary outcome measure. Data were collected through printed questionnaires and presented in pie chart.

The findings indicate that the prevalence of musculoskeletal problems among physiotherapy students is 86%. Specifically, 45% of students reported neck pain, 15% reported low back pain, and 12% reported shoulder pain.

Niraj A. Bharadva *et al*. (2014) concluded that musculoskeletal pain is common among physiotherapy students, with lower back, neck, and upper back being the most affected areas. The primary aggravating factor was handling patients for exercises, while muscle relaxation exercises were identified as the most effective relieving factor. Additionally, the length of course exposure showed a significant association with the prevalence of pain.

Edgar R. Vieira *et al*. (2016) reported that up to 90% of physical therapists experience work-related musculoskeletal disorders (WMSDs) during their careers, with 50% experiencing WMSDs within the first five years of practice. The low back was identified as the most commonly affected body part, with female physical therapists and those working in hospitals exhibiting a higher prevalence of WMSDs.

Conclusion

This study aimed to evaluate the prevalence of musculoskeletal problems in physiotherapy students using the Extended Nordic Musculoskeletal Questionnaire as an outcome measure. Conducted through a survey method, 200 subjects who met the inclusion criteria were selected, and data were collected via printed questionnaires. Participants were asked to mark the option that most closely related to their current condition. Based on their responses, the prevalence of musculoskeletal problems among physiotherapy students was analysed. The findings indicate a high prevalence of musculoskeletal issues among physiotherapy students, with a notably higher incidence observed in female students. This underscores the need for preventive strategies and ergonomic education to mitigate these risks.

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