

Review Article

Prevalence and Risk Factors and Coping Strategies of Musculoskeletal Disorders Among Healthcare Professionals in India - A Systematic Review

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Abstract

Musculoskeletal disorders are a significant occupational health concern among healthcare professionals worldwide, including in India. Therefore, it is important to conduct a systematic review to determine the prevalence of musculoskeletal disorders specifically among healthcare professionals in the Indian population.

This study aims to analyse the factors related to knowledge, perceptions, and attitudes of health professionals with occupational safety and health behaviour in order to gain a better understanding of the prevalence and impact of musculoskeletal disorders in this population.

The systematic review will follow the Preferred Reporting Items for Systematic Reviews and Meta-Analyses guidelines, taking into account relevant studies on the prevalence and risk factors of musculoskeletal disorders among healthcare professionals in India. The search for relevant studies was conducted using databases such as PubMed, Scopus, PsycINFO, Global Health, Web of Science, CINAHL, Google Scholar, and Research Gate. This approach will ensure a comprehensive review of the available literature on this topic.

Therefore, this systematic review will provide valuable insights into the prevalence and risk factors of musculoskeletal disorders in this specific population.

In conclusion, this systematic review aims to fill the gap in knowledge regarding the prevalence of musculoskeletal disorders among healthcare professionals in India. The findings of this study will contribute to a better understanding of the extent of musculoskeletal disorders in the Indian healthcare workforce, which can inform strategies and interventions aimed at preventing and managing these disorders.

This systematic review will also provide a thorough analysis of the available literature in order to determine the prevalence and risk factors of musculoskeletal disorders among healthcare professionals in India. To conduct this systematic review, we will adhere to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses guidelines.

Keywords: Musculoskeletal disorders, Healthcare professionals, Prevalence, Indian population

Introduction

Musculoskeletal disorders are a collection of inflammatory and degenerative conditions that affect the muscles, ligaments, tendons, joints, peripheral nerves, and blood vessels that support them, causing soreness, pain, and discomfort. Work Related Musculoskeletal Disorders (WRMSD) are disorders that develop as a result of work-related activities.^{1,3,4} Work-related mental health disorders (WRMSDs) are a significant concern in the workplace, resulting in increased compensation and healthcare costs, decreased

productivity, and a reduced quality of life. Hospital personnel under constant pressure to work efficiently with limited resources and management. Although healthcare personnel (particularly nurses) are recognised to be at high risk for WRMSDs, this is one of the least investigated occupations.^{1,2,9,16}

The most frequently documented biomechanical risk factors for MSD include excessive repetition, uncomfortable postures, and heavy lifting.^{2,28,30}

India's overcrowded health-care system, caused by a shortage of competent and skilled medical and paramedical professionals, places additional strain on its human resources. Furthermore, the majority of nursing personnel in India are females who have additional duties such as caring for their families, which adds to their physical and psychological stress. In such a circumstance, Indian nurses appear to have a larger chance of developing MSD than their Western colleagues. In order to better understand the prevalence of MSD and its risk factors.²

Musculoskeletal disorders (MSDs) are multifactorial. They can be attributed to personal characteristics (previous medical history, physical capacity, ageing, smoking, obesity, etc.) or work-related attributes (high work demand, lack of control over work, low job satisfaction, repetitive work, the high pace of work, time pressure, lack of support, and physical exposure such as lifting, carrying, pulling, pushing, repetition of movements, awkward or cramped position, and static posture, prolonged standing, and sitting, etc.)^{7,25,26,29,31,32}

WRMD affects 91% of therapists throughout their careers, with an 88% recurrence rate. Approximately 80% of therapists experienced symptoms in at least one body area over a 12-month period, and one in every six therapists altered their field of specialisation as a result of WRMD^{11,19}

Healthcare professionals are at a high risk of developing musculoskeletal disorders due to the physically demanding nature of their work, which often involves lifting, transferring patients, and performing repetitive tasks.^{2,4,9,11,16} These activities can put strain on the musculoskeletal system and increase the risk of developing disorders such as low back pain, neck and shoulder pain, and carpal tunnel syndrome.^{5,10,17,20,22}

Musculoskeletal disorders among healthcare professionals can have significant implications for both the individual and the healthcare organization. For healthcare professionals, musculoskeletal disorders can lead to decreased work productivity, increased sick leave and absenteeism, and ultimately affect the quality of patient care.^{6,8,12,14,21,23,24,27}

Musculoskeletal disorders are a significant issue among healthcare professionals in the Indian population. The physically demanding nature of their work, poor ergonomics, and long working hours contribute to the increased risk of musculoskeletal disorders. Further research is needed to explore effective intervention strategies and the development of comprehensive policies to prevent and manage musculoskeletal disorders in healthcare settings. This systematic review highlights the high prevalence of musculoskeletal disorders among healthcare professionals in the Indian population. It also emphasizes the need for proactive measures to improve ergonomics, provide proper training and education, and create a supportive work environment. This can help reduce the burden of musculoskeletal disorders and promote the overall well-being of healthcare professionals.^{15,18,21,26,32}

Objective of the Systematic Review

To assess the prevalence of musculoskeletal disorders among healthcare professionals in the Indian population.

Additionally, the review aims to identify the risk factors associated with the development of musculoskeletal disorders in this population and the coping strategies.

Methods for Conducting the Systematic Review

To conduct the systematic review, a comprehensive search will be performed in electronic databases such as PubMed, Scopus, and Google Scholar.

The inclusion criteria for studies to be included in this systematic review are as follows:

1. Study participants must be healthcare professionals in the Indian population.
2. Studies must report on the prevalence risk factors and interventions of musculoskeletal disorders among healthcare professionals.
3. Studies must be published in English language.
4. Studies must have a sample size of at least 50 participants

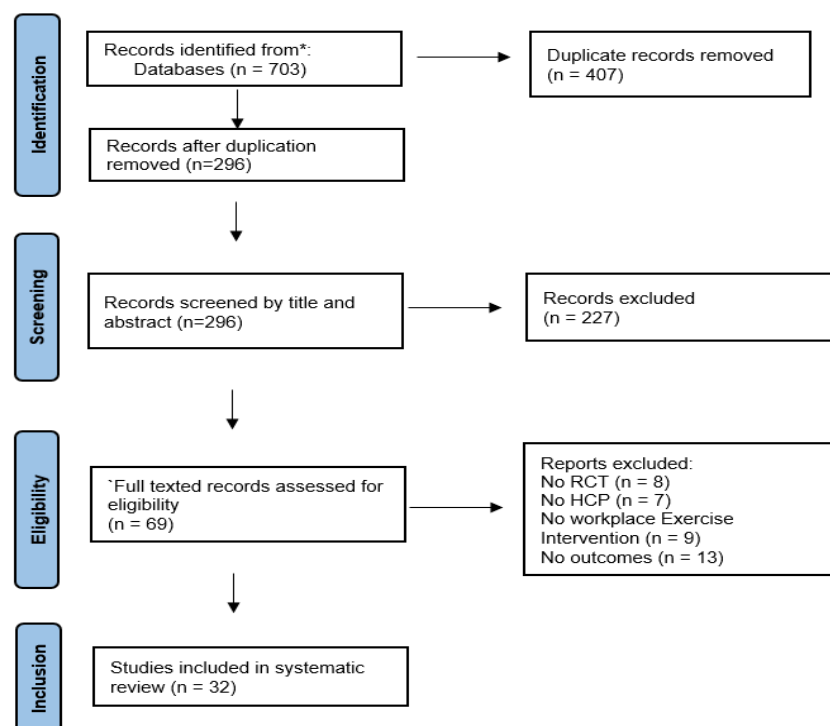


Fig 1: Flow diagram of trial selection, adapted from PRISMA. (PRISMA - Preferred Reporting Items for Systematic Reviews and Meta-Analyses; RCT, randomised controlled trial.)

Results

Research results yielded 296 articles after removing duplicates. After screening by title and abstract, 227 articles were excluded, resulting in a total of 69 full-text studies. The search followed the specified inclusion and exclusion criteria. In total, 32 studies were included. More detailed information is presented in the adapted PRISMA flow chart (figure 1)

Based on the identified sources, musculoskeletal disorders are a common problem among healthcare professionals in various settings. Multiple studies have reported a high prevalence of musculoskeletal disorders among healthcare professionals in the Indian population. These disorders have been found to have significant impacts on work productivity, sick leave, and absenteeism among healthcare professionals.

Factors such as heavy physical work, high psychosocial work demands, and the presence of comorbidities have been identified as risk factors for the development of musculoskeletal disorders among healthcare professionals in the Indian population.

Based on the available literature, there is a high prevalence of musculoskeletal disorders among healthcare professionals in India. The prevalence of musculoskeletal disorders among healthcare professionals in India is a significant concern that has been highlighted in several studies

These disorders not only affect the physical health of the professionals but also impact their overall well-being and ability to provide quality care to patients. The risk factors associated with the development of musculoskeletal disorders in this population include the physically demanding nature of their work, poor ergonomics, and long working hours.

Studies have shown that healthcare professionals in India, particularly those involved in patient handling and manual tasks, are at a higher risk of developing musculoskeletal disorders such as low back pain, shoulder pain, and wrist injuries. Musculoskeletal disorders can lead to increased absenteeism, decreased work productivity, and potentially compromised patient safety and care quality.

Understanding the prevalence and risk factors of musculoskeletal disorders in Indian healthcare professionals is crucial for developing targeted intervention strategies aimed at preventing and managing these conditions. By addressing the root causes and implementing ergonomic interventions, healthcare organizations can create safer work environments for their employees, ultimately improving the overall well-being of the healthcare workforce. This systematic review, we will delve deeper into the specific risk factors identified in the literature and explore the potential interventions and strategies to mitigate the prevalence of musculoskeletal disorders among healthcare professionals in India.

Discussion

In this systematic review, we found that the prevalence of musculoskeletal disorders among healthcare professionals in India is high. Physically demanding nature of healthcare work, including tasks such as lifting and transferring patients, repetitive motions, and prolonged periods of standing or sitting, puts healthcare professionals at an increased risk for musculoskeletal disorders. In addition, poor ergonomics in healthcare facilities, such as improper workstation design and a lack of equipment adjustments, further contribute to the development of musculoskeletal disorders.

Long working hours and high levels of physical and mental stress experienced by healthcare professionals in India can also exacerbate the risk of musculoskeletal disorders.

Lahoti et al. prevalence study conducted among doctors of various specialties assessed the relationship between work experience, physical activity level, age and gender. Lower back pain was reported by Psychiatrist, Dermatologist, Physiotherapist, and Radiologist, Cardiologist had neck symptoms.

Rambabu et al. study evaluated the pain perception experienced by Dental surgeon, Surgeons, and physicians and observed that the maximum musculoskeletal pain of 61% was suffered by the Dentist followed by General Surgeon with 37% and Physician with only 20%.

Shankar CM et al. A descriptive survey study design was conducted on 310 male health care professionals to assess the prevalence and risk factors on work related musculoskeletal disorders, working in uncomfortable postures 46.28% of surgeons suffered from Lower back pain.

Diksha Mahajan et al. Conducted study on Doctors and Nursing officers to estimate the distribution, prevalence of musculoskeletal disorders in different anatomical region. Lower back and Neck were more affected in the last 12 months due to working in the same position.

Apexa S Raithata et al. Estimated prevalence of Musculoskeletal disorders of Nurses associated with perceived work demands and sociodemographic variables on 296 Nursing staffs.

A Cross-sectional study conducted by Hardi Thacker et al., on prevalence risk factors and work station analysis observed that Prosthodontist had severe Neck pain of 64.7% due to repetitive movements, lack of break and poor workstation.

Studies conducted by Payal Saxena et al. among Dentist in Madhya Pradesh, on Work related musculoskeletal disorder observed that pain was significantly prevalent among Dentist who worked in direct vision without any assistant in standing position.

Anap D.B et al. study conducted in Maharashtra on work related muscular discomfort reported higher prevalence of 89.1% and lower back being more affected in Nurses.

Kumar VK et al. Dentist bending on Neck and Back while treating Maxillary teeth, prolonged standing and bending posture during surgeries resulted in 1 year period prevalence rate of 100% for Musculoskeletal disorders.

Literature review revealed that there is a lack of comprehensive policies and guidelines in healthcare settings in India that prioritize the prevention and management of musculoskeletal disorders among healthcare professionals. This highlights the need for further research to explore the effectiveness of different intervention strategies in reducing the prevalence of musculoskeletal disorders in this population. Education and training programs should be established to educate healthcare professionals on proper body mechanics, safe patient handling techniques, and the importance of taking regular breaks to prevent overexertion.

Technology and automation should be explored as potential solutions to reduce the physical strain on healthcare professionals. Based on the systematic review conducted on the prevalence of musculoskeletal disorders among healthcare professionals in the Indian population, it is evident that these disorders are highly prevalent and have a significant impact on the health and well-being of healthcare professionals. The lack of awareness and underreporting of symptoms among healthcare professionals contributes to the persistent problem of musculoskeletal disorders. Overall, there is a clear need for a comprehensive approach that includes ergonomic interventions, policy changes, education, and technological advancements to address the prevalence of musculoskeletal disorders among healthcare professionals in the Indian population.

Conclusion and Implications for Future Research

In conclusion, this systematic review highlights the high prevalence of musculoskeletal disorders among healthcare professionals in India. The physically demanding nature of their work, poor ergonomics, and long working hours contribute to the increased risk of musculoskeletal disorders in this population. To effectively reduce the occurrence of musculoskeletal disorders (MSDs) among healthcare professionals, a

comprehensive evaluation of various intervention strategies is imperative. This includes the development and implementation of robust policies and guidelines that prioritize the prevention and management of MSDs within healthcare settings. Healthcare organizations should invest in comprehensive education and training programs that equip professionals with the knowledge and skills necessary for practicing proper body mechanics, safe patient handling techniques, and effective stress management strategies. Additionally, the potential of technology and automation to alleviate the physical burden on healthcare professionals should be thoroughly explored and implemented where appropriate. By adopting a multi-faceted approach that combines research, policy development, education, and technological advancements, healthcare organizations can significantly improve the well-being and productivity of their workforce.

Recommendations for Prevention and Management

Based on the findings of the systematic review, several recommendations can be made for the prevention and management of musculoskeletal disorders among healthcare professionals in India.

1. Ergonomic considerations should be a top priority for healthcare organizations, with regular assessments of workstations and implementation of strategies to optimize the physical ergonomics of healthcare tasks.
2. Healthcare organizations should promote a culture of safety by creating a supportive work environment where employees feel comfortable reporting musculoskeletal symptoms and injuries without fear of reprisal. Open communication allows for early identification and intervention, preventing further complications.
3. Healthcare organizations should implement policies and procedures that prioritize the well-being of healthcare professionals, such as regular breaks to prevent overexertion and fatigue.

Therefore, it is recommended that healthcare organizations in India prioritize ergonomic assessments of workstations and implement measures to optimize the physical ergonomics of healthcare tasks. These measures may include providing adjustable equipment, ergonomic training, and strategies to reduce repetitive movements and awkward postures. Moreover, healthcare professionals should receive education and training on proper body mechanics and safe patient handling techniques to minimize the risk of musculoskeletal disorders.

The systematic review also highlights the importance of addressing musculoskeletal disorders among healthcare professionals in India through a comprehensive approach that includes ergonomic assessments, education and training, and the establishment of a supportive work environment.

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