

# Exploring the Experiences of Nurses with Musculoskeletal Disorders: Impact on Job Performance and Quality of Care

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## Abstract:

**Background:** Musculoskeletal disorders (MSDs) are prevalent among nurses and can significantly affect their job performance and quality of care. This study explores nurses' experiences with MSDs and their impact on their professional roles.

**Objective:** To investigate the prevalence of MSDs among nurses, their effects on job performance, and the quality of patient care, and to understand the personal and emotional challenges associated with these conditions.

**Methods:** A mixed-methods approach was employed. Quantitative data were collected from 127 nurses using a structured survey assessing MSD prevalence, job performance, and care quality. Qualitative data were obtained through semi-structured interviews with 20 nurses to explore their personal experiences and challenges.

**Results:** The study found that 68% of nurses experienced MSDs, with lower back, neck, and shoulder pain being most common. MSDs led to reduced physical capacity, increased absenteeism, and decreased work efficiency. Concerns about patient safety and compromised care quality were also reported. Qualitative analysis revealed significant physical and emotional strain, impacting job performance and care delivery.

**Conclusion:** MSDs have a substantial impact on nurses' job performance and patient care. Effective ergonomics interventions, workplace modifications, and psychological support are needed to address these issues. Future research should focus on long-term effects and the effectiveness of targeted interventions.

**Keywords:** Musculoskeletal disorders, nurses, job performance, quality of care, ergonomics, workplace interventions.

## Introduction

Musculoskeletal disorders (MSDs) are a prevalent issue among healthcare professionals, particularly nurses, due to the physically demanding nature of their work. Nurses are frequently required to perform tasks such as lifting, transferring patients, and maintaining prolonged postures, which contribute to a high incidence of MSDs careers (Ellapen and Narsigan, 2014). MSDs not only affect the physical health of nurses but also have significant implications for their job performance and the quality of care they provide (Yasobant and Rajkumar, 2014).

### Background and Rationale

The prevalence of MSDs among nurses is well-documented, with studies showing that up to 70% of nurses experience work-related MSDs at some point in their careers (Ellapen and Narsigan, 2014). These disorders often result in pain, reduced physical capacity, and absenteeism, which can impact job performance and patient care (Dehdashti et al., 2017). For instance, MSDs can lead to decreased efficiency in performing

patient care tasks, increased errors, and diminished quality of care, all of which compromise patient safety and outcomes (Letvak et al., 2012).

### Objectives

This study aims to explore the experiences of nurses suffering from MSDs and to assess how these conditions affect their job performance and the quality of care they provide. Understanding these experiences is crucial for developing targeted interventions to support nurses and enhance patient care (Ellapen and Narsigan, 2014).

### Research Questions

1. What are the experiences of nurses with MSDs in their professional roles?
2. How do MSDs impact nurses' job performance?
3. What effects do MSDs have on the quality of care provided by nurses?

By addressing these questions, this research seeks to provide insights into the challenges faced by nurses with MSDs and to inform strategies that can improve both nurse well-being and patient care quality.

## Literature Review

### Prevalence and Impact of Musculoskeletal Disorders in Nursing

Musculoskeletal disorders (MSDs) are highly prevalent among nurses due to the physically demanding nature of their work. Studies indicate that between 50% to 80% of nurses experience MSDs during their careers (Dehdashti et al., 2017; Yasobant and Rajkumar, 2014). The frequent requirement for lifting, transferring, and repositioning patients, combined with prolonged standing and awkward postures, contributes to a high incidence of these disorders careers (Ellapen and Narsigan, 2014). The burden of MSDs among nurses is not only a significant health issue but also a major factor affecting their overall job performance and quality of care.

### Effects of MSDs on Job Performance

The impact of MSDs on job performance among nurses has been widely studied. MSDs can lead to reduced physical capacity, increased absenteeism, and lower work efficiency. For example, a study by Letvak et al. (2012) found that nurses with MSDs reported decreased ability to perform physical tasks and increased frequency of work-related errors. Additionally, MSDs contribute to higher rates of absenteeism and presenteeism, where nurses are present at work but are less effective due to pain or discomfort (Ellapen and Narsigan, 2014). The resultant impact on job performance includes decreased productivity and increased workload for colleagues, which can further strain the healthcare environment.

### Impact of MSDs on Quality of Care

The quality of patient care is closely linked to the well-being of healthcare workers. MSDs can compromise the quality of care provided by nurses by affecting their ability to perform tasks effectively and safely. Research has shown that nurses with MSDs may experience difficulties in maintaining proper patient handling techniques, which can increase the risk of patient injuries and lower the overall quality of (Ellapen and Narsigan, 2014). Additionally, MSDs can lead to increased fatigue and reduced concentration, further affecting the quality of patient interactions and care (Chiou et al., 2013).

### Previous Research on Nurses' Experiences with MSDs

Qualitative research into the experiences of nurses with MSDs reveals the multifaceted nature of their challenges. Nurses often report experiencing chronic pain, reduced physical capability, and emotional stress due to their conditions (Abareshi et al., 2015). For example, interviews and focus groups with nurses have highlighted issues such as the difficulty in performing routine tasks and the emotional toll of dealing with

chronic pain while trying to provide high-quality patient care (Tullar et al., 2010). These experiences underscore the need for effective interventions and support systems to address both the physical and psychological aspects of MSDs.

### Gaps in Existing Research

While significant research has been conducted on the prevalence and impact of MSDs among nurses, several gaps remain. Many studies have focused primarily on quantitative measures of MSD prevalence and job performance, with less emphasis on qualitative insights into nurses' personal experiences and the broader impact on their quality of care (Mahmud et al., 2011). Additionally, there is a need for research that evaluates the effectiveness of different interventions and support systems in mitigating the effects of MSDs on nursing practice (Nelson et al., 2009).

The literature indicates that MSDs among nurses have a profound impact on both job performance and quality of care. Addressing these issues requires a comprehensive approach that includes both preventive measures and support systems to improve the well-being of nurses and ensure high standards of patient care. Further research is needed to fill existing gaps and develop effective strategies for managing MSDs in the nursing profession.

## Methodology

### Study Design

This research employed a mixed-methods design to comprehensively explore nurses' experiences with musculoskeletal disorders (MSDs) and their impact on job performance and quality of care. The study combined quantitative surveys to assess the prevalence and impact of MSDs and qualitative interviews to gain deeper insights into the personal experiences of nurses.

### Participants

A total of 150 registered nurses from a tertiary care hospitals participated in the study. Participants were selected using stratified random sampling to ensure a representative sample across different departments and experience levels. Inclusion criteria were: currently working as a nurse, experiencing MSDs, and providing informed consent. Exclusion criteria included nurses who were on extended leave or had not experienced MSDs in the past year.

### Data Collection

#### 1. Quantitative Data

- Survey Instrument: A structured questionnaire was developed, including sections on demographic characteristics, prevalence of MSDs, job performance, and quality of care. The Nordic Musculoskeletal Questionnaire (NMQ) was used to assess the prevalence and severity of MSDs, while a Job Performance and Quality of Care Questionnaire, developed for this study, measured the perceived impact of MSDs on job performance and patient care.

- Procedure: Surveys were distributed electronically and completed anonymously. The response rate was 85%, with 127 completed surveys received.

#### 2. Qualitative Data

- Interview Instrument: Semi-structured interviews were conducted using a guide developed to explore nurses' experiences with MSDs, including their challenges, coping strategies, and perceived impacts on job performance and care quality.

- Procedure: In-depth interviews were conducted with 20 nurses who were selected based on survey responses indicating significant impact from MSDs. Interviews were audio-recorded, transcribed verbatim, and lasted approximately 45-60 minutes each.

## Data Analysis

### 1. Quantitative Analysis

- Statistical Methods: Descriptive statistics were used to summarize demographic data and prevalence rates of MSDs. Paired t-tests and chi-square tests were applied to assess the impact of MSDs on job performance and quality of care. Statistical significance was set at  $p < 0.05$ .
- Software: Data were analyzed using SPSS Version 27.

### 2. Qualitative Analysis

- Thematic Analysis: Transcripts were analyzed using thematic analysis to identify recurring themes and sub-themes related to nurses' experiences with MSDs. The analysis followed Braun and Clarke's (2006) framework, including data familiarization, coding, theme development, and review.
- Software: NVivo Version 12 was used to assist with organizing and coding qualitative data.

## Ethical Considerations

The study was approved by the ethics committee. Informed consent was obtained from all participants, who were assured of the confidentiality and anonymity of their responses. Participants were informed of their right to withdraw from the study at any time without consequence.

## Findings

### Demographic Characteristics

The study sample comprised 127 nurses who participated in the quantitative survey. Key demographic characteristics are summarized in Table 1.

Table 1: Demographic Characteristics of Participants

Characteristic	Frequency (n)	Percentage (%)
Age		
20-29 years	25	19.7
30-39 years	40	31.5
40-49 years	35	27.6
50+ years	27	21.3
Gender		
Female	110	86.6
Male	17	13.4
Years of Experience		
< 5 years	30	23.6
5-10 years	45	35.4
11-20 years	35	27.6
> 20 years	17	13.4
Department		
Medical/Surgical	65	51.2
Pediatrics	25	19.7
ICU	20	15.7
Emergency	17	13.4

## Quantitative Findings

### 1. Prevalence of Musculoskeletal Disorders

- Overall Prevalence:\*\* 68% of participants reported experiencing MSDs.

- Specific Areas Affected:
  - Lower Back: 45%
  - Neck: 30%
  - Shoulders: 25%
  - Knees: 15%
  - Other: 10%

## 2. Impact on Job Performance

- Reduced Physical Capacity: 55% of nurses reported difficulty in performing physical tasks such as lifting and transferring patients.
- Increased Absenteeism: 40% of nurses had taken sick leave in the past year due to MSDs.
- Work Efficiency: 35% of nurses reported a decrease in work efficiency due to pain and discomfort.

## 3. Impact on Quality of Care

- Patient Safety Concerns: 30% of nurses expressed concerns that their MSDs led to an increased risk of patient injuries.
- Quality of Care: 25% of nurses reported that their ability to provide high-quality care was compromised due to physical limitations and pain.

## Qualitative Findings

### Theme 1: Challenges Faced by Nurses with MSDs

- Sub-theme 1.1: Physical Limitations
  - Participants reported significant physical challenges, including difficulty in lifting patients and performing other manual tasks. One nurse stated, "The constant pain in my lower back makes it hard to lift patients, and I worry about making mistakes because of my physical limitations."
- Sub-theme 1.2: Emotional and Psychological Impact
  - Many nurses described feelings of frustration and stress related to their physical condition. One participant mentioned, "It's emotionally draining to cope with the pain daily while trying to meet the demands of the job."

### Theme 2: Impact on Job Performance

- Sub-theme 2.1: Decreased Productivity
  - Nurses reported reduced productivity and efficiency in their roles. One nurse commented, "I'm slower and less efficient because of the pain, and it affects my ability to complete tasks in a timely manner."
- Sub-theme 2.2: Increased Absenteeism
  - The need for frequent sick leave was a common concern. As one participant noted, "I've had to take more sick days than I'd like because the pain becomes unbearable."

### Theme 3: Influence on Quality of Care

- Sub-theme 3.1: Compromised Patient Safety
  - Some nurses felt their ability to ensure patient safety was compromised. A participant shared, "I'm concerned that my physical limitations could lead to mistakes that put patients at risk."
- Sub-theme 3.2: Impact on Patient Interaction
  - Nurses mentioned that their MSDs affected their ability to engage with patients effectively. One participant said, "I'm less able to interact with patients as warmly as I'd like because I'm focused on managing my pain."

## Discussion

This study provides a comprehensive overview of the experiences of nurses with musculoskeletal disorders (MSDs) and their effects on job performance and the quality of care. The findings underscore the widespread

prevalence of MSDs among nurses and the substantial impact these conditions have on their professional roles.

### Prevalence and Physical Impact

The study revealed a high prevalence of MSDs among nurses, with 68% of participants reporting symptoms. This finding is consistent with previous research indicating that MSDs are a major concern in the nursing profession career (Ellapen and Narsigan, 2014; Dehdashti et al., 2017). The most frequently affected areas were the lower back, neck, and shoulders, which aligns with the known physical demands of nursing work, such as lifting and transferring patients (Yasobant and Rajkumar, 2014). The physical limitations reported by nurses in this study corroborate the existing literature, which highlights how MSDs can severely impact physical capacity and overall job performance (Letvak et al., 2012).

### Impact on Job Performance

The study found that MSDs significantly hinder job performance, as evidenced by reduced physical capacity, increased absenteeism, and decreased work efficiency. These results echo previous studies that have documented similar issues among healthcare workers (Abareshi et al., 2015; Ellapen and Narsigan, 2014). The reported increase in absenteeism and decreased efficiency reflects the broader implications of MSDs on workforce productivity. Notably, the impact on productivity and absenteeism underscores the need for effective ergonomics interventions and workplace modifications to alleviate the burden on affected nurses (Nelson et al., 2009).

### Effects on Quality of Care

The findings also highlight that MSDs can compromise the quality of care provided by nurses. Concerns about patient safety and the ability to provide high-quality care were prevalent among participants. This is consistent with research indicating that physical discomfort and limitations can lead to reduced effectiveness in patient care ((Ellapen and Narsigan, 2014; Chiou et al., 2013). Nurses' concerns about patient safety due to their MSDs emphasize the need for interventions that not only address the physical aspects of MSDs but also ensure that patient care standards are maintained.

### Qualitative Insights

The qualitative data provided deeper insights into the personal and emotional challenges faced by nurses with MSDs. Participants described significant physical and emotional strain, which aligns with findings from other qualitative studies exploring the lived experiences of healthcare workers with similar conditions (Tullar et al., 2010). The themes of physical limitations, emotional stress, and compromised job performance reflect the complex interplay between physical health and job demands in nursing. These insights underscore the importance of addressing both physical and psychological aspects of MSDs in developing support and intervention strategies.

### Implications for Practice

The study's findings have important implications for nursing practice and healthcare management. There is a clear need for enhanced ergonomics training, workplace modifications, and support systems to help nurses manage MSDs effectively. Implementing evidence-based interventions, such as ergonomic equipment and regular training, can help mitigate the physical strain associated with nursing tasks (Mahmud et al., 2011). Additionally, providing psychological support and counseling can address the emotional and stress-related challenges faced by nurses with MSDs.



## Limitations and Future Research

While the study provides valuable insights, it has several limitations. The reliance on self-reported data may introduce response bias, and the cross-sectional design limits the ability to draw causal inferences. Future research should explore longitudinal studies to better understand the long-term effects of MSDs on nursing practice and patient care. Additionally, investigating the effectiveness of specific interventions and support programs in reducing the impact of MSDs would be beneficial.

## Conclusion

This study highlights the significant impact of musculoskeletal disorders on nurses' job performance and quality of care. Addressing the physical and emotional challenges associated with MSDs through targeted interventions and support systems is crucial for improving both nurse well-being and patient outcomes. The findings emphasize the need for continued research and action to support nurses in managing MSDs effectively and maintaining high standards of patient care.

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