

Prevalence and Patterns of Musculoskeletal Disorders Among Doctors Working in Invasive Procedures in Benghazi Medical Center, 2018

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Abstract

Background: Musculoskeletal disorders (MSDs) are a leading occupational health concern among healthcare professionals. Doctors performing invasive procedures face significant risk due to prolonged static postures and repetitive motions.

Objective: To evaluate the prevalence, patterns, and associated factors of MSDs among doctors in invasive specialties at Benghazi Medical Center.

Methods: A cross-sectional study was conducted in 2018 involving 200 doctors across ten specialties. The Nordic Musculoskeletal Questionnaire (NMQ) assessed pain and functional limitations in various body regions over the past 12 months and 7 days. Statistical analysis included descriptive measures, chi-square tests, and logistic regression using SPSS v25.

Results: Of the 200 participants, 62% were female, with a mean age of 39.4 years. The overall prevalence of MSDs was 86.5%, with lower back pain (59.5%) being the most reported, followed by shoulder (29%) and knee pain (28%). Gender differences were noted, with females experiencing higher rates of hip/thigh and shoulder issues. Specialty-specific risks showed ENT surgeons significantly affected by neck and wrist/hand pain.

Conclusion: MSDs are prevalent among doctors performing invasive procedures. Preventive strategies, including ergonomic training and workplace modifications, are recommended to mitigate these occupational hazards.

1. Introduction

Background: Musculoskeletal disorders (MSDs) are injuries affecting muscles, tendons, ligaments, nerves, and other components of the musculoskeletal system. MSDs arise from occupational exposures, including repetitive motions, awkward postures, and sustained physical activity. Healthcare professionals, especially those in surgical or invasive fields, face heightened risks due to the physical demands of their work.

Objective: This study aims to assess the prevalence and patterns of MSDs among doctors at Benghazi Medical Center, focusing on specialty-specific risk factors and gender differences.

2. Methods

Study Design and Setting

A cross-sectional survey was conducted at Benghazi Medical Center among doctors in ten invasive specialties between June and December 2018.

Participants

Inclusion criteria included Libyan doctors with a minimum of one year of specialty experience, regularly performing procedures lasting over 30 minutes. Non-Libyan doctors, those with less than one year of experience, or individuals unavailable during the study period were excluded.

Sampling and Sample Size

Convenience sampling was employed, with a total of 200 participants from specialties such as gynecology, general surgery, and neurosurgery.

Data Collection Tools

The Nordic Musculoskeletal Questionnaire (NMQ) was used to gather data on MSD prevalence, pain severity, and functional limitations in 12 body regions.

Data Analysis

Descriptive statistics summarized demographics and prevalence rates. Associations between variables were analyzed using chi-square tests and logistic regression. Significance was set at $p \leq 0.05$.

3. Results

Demographics

- Gender: 38% male, 62% female.
- Age: Mean 39.4 ± 8.4 years, range 27-63 years.
- Specialty distribution: Gynecology (46%), general surgery (18%), ENT (10%).

Prevalence of MSDs

- Overall prevalence: 86.5%.
- Commonly affected regions: Lower back (59.5%), shoulders (29%), knees (28%), and neck (24.5%).

Risk Factors

- Gender: Females experienced higher rates of hip/thigh and shoulder pain ($p < 0.05$).
- Specialty: ENT surgeons were significantly affected by neck and wrist/hand pain ($p < 0.05$).
- BMI: 38% of participants were overweight, and 28% were obese, correlating with higher MSD rates.

Severity of Pain

- Mild pain: 42.5%.
- Moderate pain: 41%.
- Severe pain: 16.5%.

4. Discussion

Comparison with Literature: The prevalence of MSDs in this study aligns with global findings, which report high rates of lower back and shoulder pain among surgeons and other specialists. Similar patterns have been observed in studies from Saudi Arabia and Canada, highlighting occupational ergonomics as a critical factor.

Gender and Specialty Trends: Females exhibited higher susceptibility to certain MSDs, potentially due to anatomical and hormonal differences. ENT and gynecology specialists reported significant neck and upper limb pain, likely due to prolonged static postures and intricate hand movements.

Implications for Practice: The findings underscore the urgent need for ergonomic interventions, such as adjustable surgical tables, anti-fatigue mats, and training in proper posture.

Limitations: The study's cross-sectional nature limits causal inferences. The convenience sampling method may introduce selection bias.

5. Conclusion

Musculoskeletal disorders are a prevalent occupational hazard among doctors in invasive specialties at Benghazi Medical Center. Targeted ergonomic interventions and preventive strategies are essential to improve occupational health and patient care quality.

6. Recommendations

1. Implement ergonomic training programs for healthcare professionals.
2. Conduct longitudinal studies to evaluate the effectiveness of interventions.
3. Integrate ergonomic assessments into workplace safety protocols.

References

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