DOI: doi.org/10.47363/JCET/ICPEI2026/2026(7)8

Beyond Weight: Understanding Low Back Pain in Nurses with Normal BMI

Rahaf Rajjoub

Assistant Professor, Department of Nursing, College of Health Sciences, University of Buraimi, Al Buraimi, Oman

Abstract

Background: Low back pain (LBP) is a leading occupational health problem among nurses worldwide. While overweight and obesity are known risk factors, emerging evidence shows that nurses with a normal body mass index (BMI) also experience high rates of LBP due to physical workload and psychosocial stressors

Methods: A cross-sectional study was conducted among 184 nurses in Oman, of whom 106 had a normal BMI (18.5–24.9). Data was collected using a validated questionnaire addressing demographic, occupational, psychosocial, and clinical characteristics of LBP. Statistical analyses included descriptive statistics, chi-square tests, correlation analysis, and multivariate logistic regression

Results: The overall prevalence of LBP was 100%. Among nurses with normal BMI, the most reported frequency was weekly pain (34.5%), followed by daily pain (26.1%). Pain intensity was predominantly mild (64.8%) or moderate (25.9%), while duration was commonly less than one day (44.4%). Significant associations were found between LBP and pain frequency ($p = 0.006$), intensity ($p < 0.001$), BMI category ($p = 0.049$), and work specialty ($p < 0.001$). Correlation analysis showed that physical job demands ($r = 0.44$, $p < 0.01$) and psychological job demands ($r = 0.28$, $p = 0.018$) were positively related to LBP severity, whereas job control and social support demonstrated protective effects. Logistic regression revealed that high physical job demands (AOR = 2.4, 95% CI: 1.3–4.3) and working more than 40 hours per week (AOR = 1.9, 95% CI: 1.1–3.5) were independent predictors of high-severity LBP

Conclusion: LBP is highly prevalent even among nurses with normal BMI, underscoring that occupational and psychosocial demands are stronger determinants than weight alone. Targeted ergonomic interventions, workload regulation, and workplace support programs are essential to reduce LBP and protect nurses' health