

## A Three-Dimensional Evaluation of Occupational Fatigue in Nurses: Physical, Mental and Emotional Dimensions

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### **Abstract:**

This study aimed to assess the occupational fatigue levels of nurses working in a university hospital, examining physical, mental, and emotional fatigue dimensions using the Three-Dimensional Work Fatigue Inventory (3D-WFI). The hypotheses tested whether significant relationships exist among fatigue dimensions (H1), and whether demographic factors such as age, years of service, and shift type influence fatigue levels (H2). A descriptive, cross-sectional design was employed with a stratified random sample of 252 nurses. Data collection tools included a researcher-developed socio-demographic questionnaire and the validated 3D-WFI, consisting of 18 Likert-scale items across physical, mental, and emotional subscales. Due to non-normal data distribution, non-parametric statistical tests were applied using SPSS software. The overall mean fatigue score was 3.76 (SD=0.68), with the highest fatigue observed in the physical domain (M=3.82, SD=0.68), followed by mental (M=3.76, SD=0.71) and emotional fatigue (M=3.70, SD=0.64). Significant differences in fatigue levels were found by shift type and sleep duration ( $p < 0.01$ ). Positive correlations among physical, mental, and emotional fatigue subscales supported H1. Findings emphasize the importance of targeted interventions to mitigate fatigue, such as optimizing shift scheduling and promoting rest, to enhance nurse well-being and patient safety.

### **Keywords:**

Nurses, Occupational Fatigue, Three-Dimensional Work Fatigue Inventory, Physical Fatigue, Mental Fatigue.