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WORKING CONDITION, DUTY SHIFTS, MARITAL STATUS AND COMPUTER SKILL PREDICT OCCUPATIONAL STRESS AND CLINICAL PERFORMANCE AMONG NURSES

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ABSTRACT

Nursing is a highly demanding profession where occupational stress can directly affect nurses' clinical performance and quality of patient care. Factors such as working conditions and duty shifts influence physical fatigue, mental health, and job satisfaction among nurses. Irregular or long duty shifts may disrupt sleep patterns and increase emotional exhaustion, leading to reduced efficiency at work. Marital status can also play a role by shaping social support systems and work–life balance. Understanding how these personal and workplace factors interact is essential for identifying nurses at higher risk of stress. Descriptive research design was used to conduct this quantitative study. Sample of study comprised on 864 nurses from public sector. Findings of the study reveal that the level of occupational stress was assessed higher among nurses of emergency room as compared to nurses of ICU. The level of clinical performance reported greater by the nurses of intensive care unit as compared to emergency unit nurses. Moreover, occupational stress level was found greater among the nurses who are on night shift duty as compared to day shift duty. Clinical performance is reported better among nurses of day shift duty than night shift duty. Evidences depict that married nurses show a greater level of occupational stressor as compared to those nurses who are single. In addition, there is no significant mean score difference found on clinical performance between single and married nurses. Results of the study suggest that the nurses who have computer skills showed a lower level of occupational stress as compared to those who have no computer skill. The nurses who have computer skills perform clinically better as compared to those who did not know the computer skill.

Keywords: Nursing, Occupational stress, Clinical Performance

1. INTRODUCTION

Globally, nursing is considered the backbone of the health care industry (Bibi et al., 2022). The prevalence of occupational stress among nurses varies significantly around the world. Nurses are crucial within the healthcare system as they are responsible for delivering high-quality treatment to patients and are recognized for their essential contribution to health organizations. Nursing is often considered a stressful occupation and can have negative effects on the mental, physical, family relationships, and quality of care given to patients. Nurses are the largest workforce in any healthcare institution and play a pivotal role. Several studies have identified the causes of occupational stress among nurses. Workload, lack of equipment in caring for patients dealing with the dying and death were identified as major causes of occupational stress among nurses (Baye et al., 2020; Ismail & Ali, 2020; Islam et al., 2021). Also, Nopa et al. (2023), identified role conflicts and low levels of cooperation from patients and their relatives as causes of occupational stress among nurses. Moreover, workplace violence, poor salaries, and lack of participation by nurses in decision-making were also the most common stressors identified by other researchers (Chatzigiann et al., 2018; Raja & Iqbal, 2019; Rasheed, 2020; Habte et al., 2020).

Studies at the individual level have shown that occupational stress among nurses can result in psychological, behavioral, and physical reactions. According to a study by Sarafis et al. (2016), it was found that work-related stress can be associated with many physical health problems such as migraines, muscle pain, back pain, joint pain, long-term physical illnesses, hypertension, irritable bowel syndrome, duodenal ulcer, and immune and endocrine system illnesses. Excessive occupational stress has been found to reduce the quality of nursing care. For instance, if a nurse is stressed, it is difficult to give holistic nursing care to patients which may increase patient mortality rate (Baye et al., 2020). A study by Hussain and Burdey (2025) on the experiences of nurses with occupational stress indicated that nurses experienced psychological distress and intense workload due to occupational stress and that these had a negative impact on clinical performance. Today, one of the most challenging duties of nursing school is achieving clinical practice proficiency. Emotional intelligence correlates with nurses' clinical practice performance. This study confirmed that the emotional intelligence of nursing students had significantly affected their clinical performance (Belay & Kassie, 2021;

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Russo, 2022). EI refers to the one's capability to recognize and manage owns and others emotions effectively. It also involves possessing the capability for motivation, creativity, and the ability to perform at an optimal level to accomplish tasks (Anees & Yan, 2019; Khan, 2020; Belay & Kassie, 2021).

Clinical performance is currently one of the most demanding responsibilities in nursing. There is a correlation between emotional intelligence and the clinical performance of nurses. A previous study (Belay & Kassie, 2021) demonstrated that nurses' emotional intelligence enhances their clinical performance. Research indicates that emotional intelligence (EI) significantly influences academic and clinical performance across various health disciplines (Gordon-Handler, 2018; Akbar & Hayat, 2020). In the field of nursing, emotional intelligence (EI) is regarded as one of the most important aspects of care competency, which has an impact not only on their professional work but also on their interaction with patients (Yang, 2015; Modibbo & Inuwa, 2020). According to Joseph and Newman 2023), there is a correlation between higher emotional intelligence and the ability of nurses to be more proficient in specific abilities that can assist them in developing a trustworthy relationship with their patients. A study in Korea identified emotional intelligence as a predictor of clinical practice performance (Kim, 2016). Findings from a study by Tung and Rong, (2022), indicate that emotional intelligence significantly predicts clinical practice performance among nurses. This suggests that nurses' emotional intelligence plays a significant role in predicting their effectiveness in clinical practice.

Occupational stressors and clinical performance among nurses vary significantly between those working in the Intensive Care Unit (ICU) and the Emergency Room (ER). ICU nurses typically experience chronic stress due to prolonged exposure to critically ill patients, constant monitoring of complex medical equipment, and ongoing interactions with families, often leading to emotional exhaustion and compassion fatigue. In contrast, ER nurses face acute, high-intensity stress resulting from unpredictable patient influxes, trauma cases, and the need for rapid, high-stakes decision-making. Studies indicate that while ICU nurses' stress is associated with the sustained pressure of patient acuity and adherence to detailed protocols, ER nurses' stress arises from workload surges, chaotic environments, and the immediacy of emergencies (Adriaenssens et al., 2015).These differences in stress exposure also influence clinical performance. ICU nurses typically develop specialized technical skills and excel in precision, continuous patient monitoring, and adherence to complex care protocols. ER nurses, on the other hand, cultivate broad clinical competencies, emphasizing rapid assessment, triage, and stabilization of patients in time-sensitive scenarios. The fast-paced nature of the ER demands flexible critical thinking and quick communication with multidisciplinary teams, whereas ICU nurses rely more on data-driven decision-making and coordinated care over longer periods. Consequently, occupational stress impacts performance differently: ER nurses are more prone to acute errors under sudden pressure, while ICU nurses may experience performance decline from fatigue and chronic emotional strain. Understanding these distinctions is crucial for designing targeted interventions that support nurses' mental health and optimize clinical outcomes in both high-stakes environments.

Shift work is an essential function in nursing, enabling continuous patient care in hospitals and clinical settings. Nurses' working day shifts tend to experience different stressors than those on night shifts, largely due to regular circadian rhythms and social routines. Research indicates that nurses on day duty generally demonstrate higher overall job performance compared to night and rotating shift nurses, likely because daytime schedules align more closely with natural sleep-wake cycles and daily team and administrative activities. In contrast, night shift and rotating shift nurses often encounter greater disruptions to biological rhythms, which can negatively affect performance and stress levels (Coffey et al., 1988). Occupational stress among nurses is influenced by both physiological and psychological demands associated with shift timing. Night shift work has been linked with higher levels of fatigue, sleep disturbances, and stress markers, such as altered cortisol and stress hormones, compared with day shifts. These physiological changes stem from circadian rhythm disruption, leading to impaired sleep quality and heightened emotional strain (Özyürek et al., 2021). Although some studies find similar self-reported stress levels across shift types, the long-term effects on health and job satisfaction are more pronounced in night shift nurses, including increased anxiety sensitivity and lower quality of life (Ufaq, 2019; Özyürek et al., 2021; Tesfay, 2021).

Additionally, other research notes that night shift nurses often report lower work performance due to tiredness and decreased concentration, which can contribute to errors and reduced care quality in practice (Dires et al., 2023). In some studies, married nurses report higher levels of occupational stress than their unmarried counterparts. One cross-sectional study among nurses found that married nurses experienced significantly higher occupational stress, partly attributed to work-family conflicts and increased role demands at home and at work, which may exacerbate psychological strain (e.g., balancing family responsibilities with professional duties) and reduce their ability to cope with work stressors effectively. In the same study, married nurses also showed lower clinical performance compared to unmarried nurses, indicating a negative interplay between marital status, stress, and job outcomes (Nisar et al., 2023). A comparative research in other healthcare contexts (e.g., psychiatric nursing) similarly found that married nurses experienced more stress than single nurses, largely because marital and family responsibilities can intensify stress experienced on the job and magnify its effects on performance outcomes (Alam, 2019). Therefore, there is a dire need to research this major work force of Pakistan that has been neglected. This study was conducted to compare the level of occupational stressors, clinical performance among nurses with respect to their demographic characteristics.

1.1. STATEMENT OF THE PROBLEM

Nurses play a critical role in the healthcare system, yet they are frequently exposed to demanding work environments that place them at high risk for occupational stress. Factors such as unfavorable working conditions, irregular or extended duty shifts, and personal characteristics including marital status may significantly influence nurses' stress levels. Elevated occupational stress has been associated with negative outcomes, including reduced clinical performance, compromised quality of patient care, increased absenteeism, and higher turnover rates. Despite the importance of nurses' well-being to healthcare delivery, limited empirical evidence exists on how specific workplace factors—particularly working conditions and duty shift patterns—interact with personal factors such as marital status to predict occupational stress and clinical performance among nurses. In many healthcare settings, these variables are often overlooked in workforce planning and stress management interventions. Therefore, there is a need to systematically examine the extent to which working conditions, duty shifts, and marital status predict occupational stress and clinical performance among nurses. Understanding these relationships is essential for informing hospital management policies, improving nurses' work environments, and ultimately enhancing patient care outcomes.

1.2. RATIONALE OF THE STUDY

Nursing is a highly demanding profession where occupational stress can directly affect nurses' clinical performance and quality of patient care. Factors such as working conditions and duty shifts influence physical fatigue, mental health, and job satisfaction among nurses. Irregular or long duty shifts may disrupt sleep patterns and increase emotional exhaustion, leading to reduced efficiency at work. Marital status can also play a role by shaping social support systems and work–life balance. Understanding how these personal and workplace factors interact is essential for identifying nurses at higher risk of stress. This study aims to examine these predictors to provide evidence-based insights. The findings can guide hospital administrators in improving policies, scheduling, and support systems to enhance nurses' well-being and performance.

1.3. SIGNIFICANCE OF THE STUDY

This study is significant as it provides a deeper understanding of how working conditions, duty shift patterns, and marital status influence occupational stress and clinical performance among nurses. Nursing is a demanding profession, and identifying key predictors of stress can help healthcare institutions improve both staff well-being and quality of patient care. The findings of this study will benefit hospital administrators and policymakers by providing evidence-based information that can guide the development of supportive workplace policies, improved scheduling systems, and better working environments aimed at reducing occupational stress among nurses. For nurse managers and supervisors**,** the study highlights the importance of considering personal and professional factors—such as shift work and marital responsibilities, when assigning duties and managing workloads, thereby enhancing nurses' clinical performance and job satisfaction.

The study is also significant to nurses**,** as it increases awareness of factors that contribute to stress and performance challenges. This knowledge can encourage nurses to adopt coping strategies and seek institutional support to maintain their mental health and professional effectiveness. Additionally, the study contributes to the academic and research community by expanding existing literature on occupational stress and performance in the nursing profession. It may serve as a reference for future researchers and stimulate further studies on interventions to improve nurses' working conditions. Ultimately, improving nurses' occupational well-being can lead to better patient outcomes, improved healthcare quality, and reduced staff turnover**,** making this study valuable to the overall healthcare system.

2. RESEARCH METHODOLOGY

2.1. RESEARCH DESIGN

The current study was conducted to explore occupational stressors and clinical performance among nurses with respect to their demographic variables. This quantitative research was completed through descriptive research design. The survey was conducted as a method of data collection with the help of questionnaires. The demographic variables include type of nurses (intensive care unit, emergency room nurse), computer skills (yes, no), marital status (single, married), duty shift (day, night).

2.2. POPULATION OF THE STUDY

The population of the study was consisted of the nurses of public health sector of Punjab, Pakistan. There are 9 divisions of Punjab: Lahore, Rawal Pindi, Gujranwala, Faisalabad, Sahiwal, Sargodha, Multan, Bahawalpur, and Dera Ghazi Khan. There are Teaching Hospitals, District Headquarter Hospitals and Tehsil Headquarter Hospitals in each Division. There are 23 Teaching Institutions Hospitals, 27 District Headquarters Hospitals and 112 Tehsil Headquarter Hospital. 8641 nurses are working in these Hospitals currently. Samples drawn from each ward of each hospital from each Division. 950 questionnaires delivered. Response received from 895 nurses. 864 nurses' questionnaires were selected for study.

2.3. SAMPLING TECHNIQUE AND SAMPLE SIZE

Researcher used 10% proportionate, systematic, multistage sampling techniques to select the participants of the study. Samples collected through systematic sampling techniques from each ward of each Hospital in each Division of

Province Punjab. Ten percent of samples were drawn from each unit of each hospital of Province Punjab. Permission granted by the Medical Superintendent of each hospital. Nurses' duty roster is used to select participant of study. Every 10th nurse picked from the nurses' duty roster. Data collected in more than six months span in 2022-2023 with the help of divisional EPI staff. For data collection, the survey was conducted using a questionnaire. Predesigned scales used for data collection. Samples were consisted of 864 nurses who were taken from Teaching Hospitals, District Headquarters and Tehsils Headquarters of Punjab province, Pakistan. 10% Samples selected (864 nurses) of the total nurses' population 8641 of public serving nurses.

3. RESEARCH INSTRUMENTS

3.1. NURSES' OCCUPATIONAL STRESSOR SCALE

Chen et al. (2020) developed the Nurses' Occupational Stressor Scale (NOSS) to assess the degree of occupational stress encountered by nurses. The NOSS consisted of 10 subscales: work demands, workplace violence and bullying, work-family conflict, difficulty taking leave, interpersonal relationships, organizational issues, occupational hazards, insufficient support from coworkers or carers, powerlessness, and unmet basic physiological needs. The Pearson's correlation coefficients of the 10 subscales were 0.75, 0.72, 0.74, 0.75, 0.72, 0.75, 0.71, 0.76, 0.72, and 0.61. It was determined that the whole NOSS had a test-retest reliability of 0.84. There were ten different NOSS subscales, and their respective internal consistency scores were as follows: 0.88, 0.92, 0.87, 0.86, 0.35, 0.63, 0.86, 0.78, 0.06, and 0.63. The reliability of the NOSS was evaluated by test-retest testing in order to determine its level of consistency. The range of values for the 10 factors was between 0.61 and 0.76 (Chen et al., 2020). The 4-point Likert scale; strongly disagree, Disagree, Agree, strongly agree.

3.2. SIX DIMENSION SCALE OF NURSING PERFORMANCE

A six-dimensional scale of nursing performance, developed by Schwirian in 1978, has 52 nurse behaviors organized into six performance subscales: planning/evaluation (7 items), leadership (5 items), professional development (10 items), teaching/collaboration (11 items), critical care (7 items), and interpersonal relations/communications (12 items). The 4-point response was taken on scale; 1-Not very well, 2-Satisfactorily, 3-Well, 4-Very Well

3.3. DATA ANALYSIS TECHNIQUES

The collected data were analyzed on SPSS. The t-test for independent samples designs was used to test hypothesis of the study,

4. RESULTS

Table 1: Mean score difference of Occupational Stressor and Clinical Performance between the Nurse of Intensive Care Unit and Emergency Room Nurse

Variable	TP	N	M	St. Deviation	def.	t-test	p-value
Occupational Stressor	ICU	395	119.6380	16.62388	862	-12.262	.001
	ERN	468	131.2778	11.07807			
Clinical Performance	ICU	395	115.9848	17.30672	862	7.992	.001
	ERN	468	108.5192	9.58506			

Table 1 describes the mean score difference of nurse occupational stressor, nurse clinical performance and emotional intelligence. Results of the study suggest that the nurses in the emergency room have a greater level of occupational stress as compared to those who perform their duty in the intensive care unit. The mean score of nurse occupational stressor between the nurses of emergency room (M =131.2778, SD= 11.07807) and nurses of intensive care unit (M =119.6380, SD= 16.62388, t= -12.262, p<.001). Findings of the study reveal that the level of occupational stress is assessed higher among nurses of emergency room as compared to nurses of ICU. Furthermore, results suggest that there is statistically significant mean score difference of clinical performance between the nurses of ICU and ERN. The mean score of clinical performance among nurses of ICU (M =115.9848, SD= 17.30672) and ERN (M =108.5192, SD= 9.58506, t=7.992, p<.001). The level of clinical performance is reported to be greater among nurses of intensive care unit as compared to emergency unit nurses.

Table 2: Mean score difference of Occupational Stressor, Clinical Performance among nurses with respect to their Computer Skill

Variable	CS	N	M	St. Deviation	def.	t-test	p-value
Occupational Stressor	Yes	360	117.7306	15.65104	862	-15.304	. 001
	No	504	131.8234	11.41755			
Clinical Performance	Yes	360	116.0611	16.78860	862	7.442	.001
	No	504	109.0099	11.04203			

Table 2 describes the mean score difference of nurse occupational stressor, nurse clinical performance and emotional intelligence. Results of the study suggest that the nurses who have computer skills showed a lower level of occupational stress as compared to those who have no computer skill. The mean score of nurse occupational stressor between the nurses of having computer skills (M =117.7306, SD=15.65104) and nurses without computer skill (M=131.8234, SD =11.41755, t=-15.304, p<.001). Results depict that computer skills decrease the level of occupational stress among the nurses of the public health sector. In addition, there is significant mean score difference on clinical performance between the nurses with computer skills and nurses without knowing about computers. The mean score difference of clinical performance of nurses having computer skills (M=116.0611, SD=16.78860) and nurses without computer knowledge (M= 109.0099, SD= 11.04203, t=7.442, p<.001. The nurses who have computer skills perform clinically better as compared to those who did not know the computer skill.

Table 3: Mean score difference of Nurse Occupational Stressor, Clinical Performance among nurses with respect to their Marital Status

Variable	MS	N	M	St. Deviation	def.	t-test	p-value
Occupational Stressor	Single	398	121.0151	16.54076	862	-9.352	.001
	Married	466	130.1674	12.14774			
Clinical Performance	Single	398	112.5000	16.84882	862	1.059	.290
	Married	466	111.4764	11.36210			

Table 3 shows the level of occupational stressor (work demands, work-family conflict, insufficient support from coworkers or caregivers, workplace violence and bullying, organizational issues, occupational hazards, difficulty taking leave, powerlessness, interpersonal relationships, unmet basic physiological needs), clinical performance and emotional intelligence between single and married nurses of public health sector. Findings of the study depict that married nurses show a greater level of occupational stressor as compared to those nurses who are single. In addition, there is no significant mean score difference found on clinical performance between single and married nurses.

Table 4: Mean score difference of Nurse Occupational Stressor, Clinical Performance and Emotional Intelligence among nurses with respect nurse Shift Duty

Variable	SD	N	M	St. Deviation	def.	t-test	p-value
Occupational Stressor	Day	472	125.0148	15.27601	862	-2.012	.045
	Night	392	127.0791	14.69159			
Clinical Performance	Day	472	112.8856	15.79808	862	2.141	.033
	Night	392	110.8189	11.80512			

Table 4 describes the mean score difference of occupational stressor and clinical performance with respect to duty shifts of nurses. Job related stress level is greater among the nurses who are on night shift duty as compared to day shift duty. Clinical performance is reported better among nurses of day shift duty than night shift duty.

5. DISCUSSION

Findings of the study reveal that the level of occupational stress is assessed higher among nurses of emergency room as compared to nurses of ICU. The level of clinical performance is reported to be greater among nurses of intensive care unit as compared to emergency unit nurses. Occupational stressors and clinical performance among nurses vary significantly between those working in the Intensive Care Unit (ICU) and the Emergency Room (ER). ICU nurses typically experience chronic stress due to prolonged exposure to critically ill patients, constant monitoring of complex medical equipment, and ongoing interactions with families, often leading to emotional exhaustion and compassion fatigue. In contrast, ER nurses face acute, high-intensity stress resulting from unpredictable patient influxes, trauma cases, and the need for rapid, high-stakes decision-making. Studies indicate that while ICU nurses' stress is associated with the sustained pressure of patient acuity and adherence to detailed protocols, ER nurses' stress arises from workload surges, chaotic environments, and the immediacy of emergencies (Adriaenssens et al., 2015).These differences in stress exposure also influence clinical performance. ICU nurses typically develop specialized technical skills and excel in precision, continuous patient monitoring, and adherence to complex care protocols. ER nurses, on the other hand, cultivate broad clinical competencies, emphasizing rapid assessment, triage, and stabilization of patients in time-sensitive scenarios. The fast-paced nature of the ER demands flexible critical thinking and quick communication with multidisciplinary teams, whereas ICU nurses rely more on data-driven decision-making and coordinated care over longer periods. Consequently, occupational stress impacts performance differently: ER nurses are more prone to acute errors under sudden pressure, while ICU nurses may experience performance decline from fatigue and chronic

emotional strain. Understanding these distinctions is crucial for designing targeted interventions that support nurses' mental health and optimize clinical outcomes in both high-stakes environments. Moreover, results of the study suggest that the nurses who have computer skills showed a lower level of occupational stress as compared to those who have no computer skill. The nurses who have computer skills perform clinically better as compared to those who did not know the computer skill.

Finding of the study reveal that occupational stress level is greater among the nurses who are on night shift duty as compared to day shift duty. Clinical performance is reported better among nurses of day shift duty than night shift duty. Shift work is an essential function in nursing, enabling continuous patient care in hospitals and clinical settings. Nurses' working day shifts tend to experience different stressors than those on night shifts, largely due to regular circadian rhythms and social routines. Research indicates that nurses on day duty generally demonstrate higher overall job performance compared to night and rotating shift nurses, likely because daytime schedules align more closely with natural sleep-wake cycles and daily team and administrative activities. In contrast, night shift and rotating shift nurses often encounter greater disruptions to biological rhythms, which can negatively affect performance and stress levels (Coffey et al., 1988).

Occupational stress among nurses is influenced by both physiological and psychological demands associated with shift timing. Night shift work has been linked with higher levels of fatigue, sleep disturbances, and stress markers, such as altered cortisol and stress hormones, compared with day shifts. These physiological changes stem from circadian rhythm disruption, leading to impaired sleep quality and heightened emotional strain (Özyürek et al., 2021). Although some studies find similar self-reported stress levels across shift types, the long-term effects on health and job satisfaction are more pronounced in night shift nurses, including increased anxiety sensitivity and lower quality of life (Özyürek et al., 2021). Additionally, other research notes that night shift nurses often report lower work performance due to tiredness and decreased concentration, which can contribute to errors and reduced care quality in practice (Dires et al., 2023).

Findings of the study depict that married nurses show a greater level of occupational stressor as compared to those nurses who are single. In addition, there is no significant mean score difference found on clinical performance between single and married nurses. In some studies, married nurses report higher levels of occupational stress than their unmarried counterparts. One cross-sectional study among nurses found that married nurses experienced significantly higher occupational stress, partly attributed to work-family conflicts and increased role demands at home and at work, which may exacerbate psychological strain (e.g., balancing family responsibilities with professional duties) and reduce their ability to cope with work stressors effectively. In the same study, married nurses also showed lower clinical performance compared to unmarried nurses, indicating a negative interplay between marital status, stress, and job outcomes (Nisar et al., 2023). A comparative research in other healthcare contexts (e.g., psychiatric nursing) similarly found that married nurses experienced more stress than single nurses, largely because marital and family responsibilities can intensify stress experienced on the job and magnify its effects on performance outcomes (Alam, 2019).

6. CONCLUSION

The study concludes that occupational stress among nurses is influenced by both personal and workplace factors, with emergency room nurses experiencing higher stress levels compared to those in the intensive care unit, while ICU nurses demonstrate better clinical performance. Night shift duties contribute to greater stress and lower clinical efficiency than day shifts. Married nurses face higher occupational stress than single nurses, although marital status does not significantly affect clinical performance. Additionally, nurses with computer skills experience lower stress and exhibit better clinical performance than those without such skills. These findings highlight the importance of addressing shift patterns, providing skill development, and supporting work–life balance to enhance nurse well-being and patient care quality. Overall, targeted interventions can help reduce stress and improve clinical outcomes among nurses.

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