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Burnout syndrome among nurses working in critical care units at a government hospital, Saudi Arabia

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Commonly, burnout is a crucial health issue, which is dangerous to individuals and healthcare organizations. In current years, exact attention has been directed to study burnout, specifically amongst nurses. Aims: To assess the prevalence of burnout syndrome among critical care units' nurses at King Fahad Hospital in Madinah region, Saudi Arabia **:**A quantitative, cross-sectional study was employed. A convenience sampling technique in which all nurses working in the ICU, MICU, and SICU was used. The data collected using a two-part survey. Part one included socio-demographic features, and part-two was the Maslach Burnout Inventory. The level of occupational exhaustion was moderate; but the level of the depersonalization was high, and lower sense of the personal accomplishment assessment with a statistically significant difference The main finding of the study identified among critical care units' nurses in King Fahd Hospital are mainly associated with a high workload.

Keywords: Burnout, Burnout syndrome, Nurse, Intensive care unit.

INTRODUCTION

Commonly, burnout is a crucial health issue. This issue is dangerous to individuals and health organizations. Hence, in current years, exact attention has been directed to study burnout, specifically amongst the nursing professions (Gilavandi et al. 2019). Burnout syndrome is a psychosocial occurrence evolving amongst nursing staff in reply to their difficult work settings. Burnout syndrome is one of the most common work-related disorders. It has numerous negative emotional and physical consequences, and it could contribute to syndromes such as anxiety, depression, and loss of individual motivation. Burnout syndrome decreases productivity in the workplace and has an adverse influence on health care provisions (Lahana et al. 2017).

The term burnout was defined in 1974 by the psychologist Herbert J. Freudenberger as a condition of decreasing physical and psychological efficiency due to ongoing exposure to occupational stressors (Habadi et al. 2018). The burnout syndrome comprises three dimensions: emotional exhaustion, depersonalization, and low professional realization. Emotional exhaustion refers to the condition in which an individual's body lacks energy and vigor, resulting in emotional resource depletion. Depersonalization, on the other hand, relates to emotional dispassion. Low professional realization is a negative attitude towards one's work and the dissatisfaction of being involved in a particular career (Vidotti et al. 2018).

Healthcare workers are repeatedly vulnerable to burnout syndrome; conversely, widespread disparities in burnout syndrome incidence are conveyed. Higher levels of conveying by healthcare workers employed in the Emergency Departments (EDs) and Intensive Care Units (ICUs) (Talaee et al. 2020). This had been supported by another study when the authors mentioned that healthcare workers who care for patients in critical care units experienced physical and mental strain and are more likely to have psychological issues such anxiety, depression, and sleep disruptions (Albadr & Abujamea, 2021).

Burnout is communal in a lot of health care careers, especially nursing, because nurses occupy adjacent interactive relationships with persons as a part of their responsibilities. The nursing occupation is stressful, mainly critical care nursing, and nurses employed in this setting are more susceptible to burnout (Tununu & Martin, 2020). This had been supported in 2019 by other study when the authors highlighted those nurses are more vulnerable to occupational burnout progress, and its reason is the character of the task and their emotional demand. As occupational burnout develops in response to chronic emotional stress, it disrupts the nurses' relationship with patients, colleagues, and family, as well as their social environment. Also, occupational burnout is closely linked to the work absenteeism of nurses and abandoning nursing jobs, which results in the decreased

attention and care for patients (Assadi et al. 2019).

Specifically, nurses work in critical care units encounter the extraordinary risk of occupational stress and scarcer gratified with their occupations matching with nurses occupy in other units. Burnout among Intensive Care Unit (ICU) nurses is linked to a high rate of bed closures due to direct nursing care work and a nursing shortage. Numerous reasons are recognized as the grounds of stress constituting extraordinary patient mortality, the atmosphere of death in critical care units, youths dying as critical care units' zones are prone to staff turnover and absences, and hitherto some nurses are subsequent in the critical care units setting and preserve their interest for his or her work even with the stresses (Awajeh et al. 2018)**.**

Burnout is one of the most dangerous problems that disrupts health care organisations because it is a risk factor for staff turnover. The nature of the work makes nursing a stressful occupation, and exposure to varied working environments and conditions can lead to anxiety and depression (Elbejjani et al. 2020). Therefore, it is important to determine its prevalence among nurses working in the critical care settings in general, and working at King Fahd Hospital in Madinah region – Saudi Arabia in particular, as being an important historical and Islamic destination for voluminous Muslim visitors during the whole year (Luz, 2020).

Problem Statement

As nursing is the backbone of the healthcare system, articulating stressful conditions that can contribute to the standard of care provided to patients is essential. One of the key elements of quality care is patient safety. Hence, this study has been undertaken to assess the prevalence of burnout syndrome and the factors leading to burnout among critical care units' nurses working at King Fahd Hospital in Madinah region, Saudi Arabia.

MATERIALS AND METHODS

A quantitative cross-sectional research study was employed. The study was conducted in the intensive care unit, medical intensive care unit, and surgical intensive care unit of King Fahad Hospital, Madinah region, KSA. The target sample size was 125 from 160 nurses working in the previously mentioned units. A convenience sampling used to select nurse's participants. The inclusion criteria were nurses who worked fixed hours, 2 shifts and 3 shifts; and who, whether novice or experienced, had at least one year of experience in the selected units of King Fahad Hospital. The researchers deemed this period enough to determine whether the nurses were exposed to factors that led to burnout. Male and female nurses and Saudi and non-Saudi nurses were also included. Any nurses not meeting the inclusion criteria were excluded from the study.

Data Collection

Data were collected using a powerful online survey. The data collection tool comprised two parts. The first part of the tool was developed by the researchers. It was close-ended questions, which comprised socio-demographic features, such as; Age, Gender, Marital status, Nationality, Educational level, Job title, Shift schedule, Years of experience in King Fahad Hospital, Years of experience in the current work setting, Area of the nurse working, and the factor can lead to burnout.

The second part included the Maslach Burnout Inventory (MBI), which was adopted by the researchers and used to collect the data from the target population. The MBI is the most frequently used tool to self-assess whether nurses might be at the possibility of burnout. It contains 22 items distributed into the three subscales. The emotional exhaustion subscale defines outlooks of being emotionally exhausted out of the work and comprises 9 items. The personal accomplishment subscale comprises 8 items that define views of competency and effective accomplishment at work. The depersonalization subscale pronounces disconnected and objective action of patients and contains of 5 items. Each of the 22 items asks nurses to rate their experiences on a 7-point scale, ranging from never having those feelings to having those feelings every day. The Maslach Burnout Inventory has become the standard the gold for identifying burnout in the literature of medical research that we have found to be reliable and valid (Awajeh et al. 2018). MBI convergent and discriminant validity was established in various previous studies. The content validity was established by matching the objectives with the conceptual framework and the questionnaire items to establish if the objectives were addressed. The internal consistency was measured, and the following Cronbach's coefficient alpha for the three MBI components was reported, ranging from 0.71 to 0.90 for each subscale (Cishahayo et al. 2017).

Data Analysis

The collected data was fed to the computer by means of Statistical Package for Social Sciences (SPSS version 23.0). Tables were created and graphs were established. Quantitative data were pronounced consuming the frequencies, percentages, mean (X), and standard deviation (SD). A p value less than 0.05 was considered statistically significant.

Ethical and Administrative Considerations

Official permission was obtained from the Institutional Review Boards located at Umm Al-Qura University and the General Directorate of Health Affairs in Medina (No: IRB 47-2021). This study was free from coercion, and all participants were free to withdraw from the study at any time without any undesirable consequences. All forms of risks to participants were minimised in the conduct of this study, and the questionnaire was anonymous, with the participants' identities being coded. Confidentiality was

preserved by providing access to the participant's data only to researchers.

RESULTS

Table 1 shows the personal and demographic data of the nurse participants. Table 1 shows that 90 nurses who work in the intensive care unit, medical intensive care unit, and surgical intensive care unit at King Fahd Hospital participated in the current study, of which 86.7% were female and 13.3% were male. Nearly half (46.7%) were 24– 29 years old and approximately half (45.6%) were 30–39 years old. Also, more than half of the nurses (56.7%) were married, and nearly two-thirds (67.8%) were Saudi.

Table 1: Nurses' personal and demographic data (n=90).

Factor		Frequency	Percent
Gender	Male	12	13.3
	Female	78	86.7
Age	24-29	42	46.7
	30-39	41	45.6
	40-49	7	7.8
Marital statues	Single	39	43.3
	Married	51	56.7
Nationality	Saudi	61	67.8
	Non-Saudi	29	32.2
Education	Diploma	14	15.6
	Bachelor	71	78.9
	Postgraduate	5	5.5
Job title	Head nurse	9	10.0
	Staff nurse	81	90.0
Shift	2 Shifts	24	26.7
	3 Shifts	38	42.2
	Fixed hours	28	31.1
How long have you been working in King Fahd Hospital?	<5 years	52	57.8
	>20 years	3	3.3
	11-20 years	12	13.3
	5-10 years	23	25.6
How long have you been working in the current area of practice?	1-5 years	58	64.4
	6-10 years	25	27.8
	11-15 years	4	4.4
	>15 years	3	3.3
Unit	ICU	21	23.3
	Medical ICU	34	37.8
	Surgical ICU	35	38.9

The majority of nurses had a bachelor's degree (78.9%), most were staff nurses (90%), and nearly half (42.2%) worked across three shifts, while nearly one-third (31.1%) worked fixed hours. Also, more than half (57.8%)

had five years' experience or less at King Fahd Hospital, and nearly two-thirds (64.4%) had 1–5 years' experience working in the current area of practice. The nurses who worked in the intensive care unit ICU were (23.3%) of the total nurses, and (37.8%) worked in the medical ICU, and (38.9%) worked in the surgical ICU.

Table 2 shows the mean scores of the level of nurses' occupational exhaustion. Table 2 shows that occupational exhaustion was measured with nine items using a 7-point Likert scale. The overall mean score was 25.70±11.07 (moderate degree).

Table 3 shows the distribution of nurses' level of occupational exhaustion. In terms of the category, more than one-third of nurses reported a moderate level of occupational exhaustion 35 (38.9%) , nearly one third reported a high level of occupational exhaustion 31 (34.4%) , and nearly one-quarter reported a low level of occupational exhaustion 24 (26.7%) . Therefore, it can be concluded that the level of occupational exhaustion is moderate, with a statistically significant difference (p< 0.05).

Table 4 shows the mean scores of nurses' level of depersonalization/loss of empathy. Table 4 shows that depersonalization/loss of empathy (DP) was measured with five items using a 7-point Likert scale. The overall mean score was 10.47±5.87 (high degree).

Table 5 shows the distribution of nurses' level of depersonalization/loss of empathy. More than one-third of nurses reported a high degree of depersonalization/loss of empathy 38 (42.2%), about one-third reported a moderate degree of depersonalization/loss of empathy 29 (32.2%), and nearly one-quarter reported a low degree of depersonalization/loss of empathy 23 (25.6%). Therefore, it can be concluded that the level of the depersonalization/loss of empathy was high with a statistically significant difference (p> 0.05).

Table 2: Mean scores of nurses' level of occupational exhaustion (n=90)

Statement	Mean	SD
1. I feel emotionally exhausted because of my work	2.81	1.51
2. I feel worn out at the end of a working day	3.04	1.66
3. I feel tired as soon as I get up in the morning and see a new working day stretched out in front of me	3.08	1.57
6. Working with people the whole day is stressful for me	2.47	1.87
8. I feel burned out because of my work	3.21	1.63
13. I feel frustrated by my work	2.83	1.75
14. I get the feeling that I work too hard	3.09	1.75
16. Being in direct contact with people at work is too stressful	2.57	1.88
20. I feel as if I am at my wits' end	2.60	1.83
Total score	**25.70**	**11.07**
	Moderate level	

Table 3: Distribution of nurses' level of occupational exhaustion

Level	Frequency	Percent	X^2/p
Low	24	26.7	2.07/0.036
Moderate	35	38.9	
High	31	34.4	
Total	**90**	**100.0**	
****p<0.05**			

Table 4: Mean scores of nurses' level of depersonalization/loss of empathy (n=90)

Statement	Mean	SD
5. I get the feeling that I treat some clients/colleagues impersonally, as if they were objects	1.83	1.76
10. I have become more callous to people since I have started doing this job	2.21	1.80
11. I am afraid that my work makes me emotionally harder	2.49	1.83
15. I am not really interested in what is going on with many of my colleagues	2.29	1.92
22. I have the feeling that my colleagues blame me for some of their problems	1.64	1.63
Total score	**10.47**	**5.87**
	High level	

Table 5: Distribution of nurses' level of depersonalization/loss of empathy

Level	Frequency	Percent	X^2/p
Low	23	25.6%	3.08/0.15
Moderate	29	32.2%	
High	38	42.2%	
Total	**90**	**100.0%**	
****p>0.05**			

Table 6 shows the mean scores of nurses' level of personal accomplishment assessment. Table 6 shows that personal accomplishment assessment was measured with nine items using a 7-point Likert scale. The overall mean score was 24.00±7.58 (low degree).

Table 7 shows the distribution of nurses' level of personal accomplishment assessment. More than three-quarters of nurses reported a low level of personal accomplishment assessment 80 (88.9%) (PA), 9 (10%) reported a moderate level of personal accomplishment assessment, and only 1 (1.1%) reported a high level of personal accomplishment assessment. Therefore, it can be concluded that the level of personal accomplishment assessment was low with a statistically significant difference ($p< 0.05$).

Figure 1 shows the distribution of nurses' perceptions of factors that lead to burnout. High workload was the most frequently mentioned factor that can lead to burnout, as it was mentioned by more than one-quarter of nurses (26.80%), followed by lack of support (16.49% of nurses), and insufficient income (15.98% of nurses), while poor teamwork was mentioned the least (12.89% of nurses).

Table 6: Mean scores of nurses' level of personal accomplishment assessment(n=90)

Statement	Mean	SD
4. I can easily understand the actions of my colleagues/supervisors	3.61	1.65
7. I deal with other people's problems successfully	2.81	1.86
9. I feel that I influence other people positively through my work	3.40	1.46
12. I feel full of energy	3.10	1.61
17. I find it easy to build a relaxed atmosphere in my working environment	2.58	1.77
18. I feel stimulated when I have been working closely with my colleagues	3.32	1.51
19. I have achieved many rewarding objectives in my work	2.52	1.84
21. In my work I am very relaxed when dealing with emotional problems	2.66	1.79
Total score	**24.00**	**7.58**
	Low level	

Table 7: Distribution of nurses' level of personal accomplishment assessment

Level	Frequency	Percent	X^2/p
Low	80	88.9%	126.07**/0.000
Moderate	9	10.0%	
High	1	1.1%	
Total	**90**	**100.0%**	
****p<0.05**			

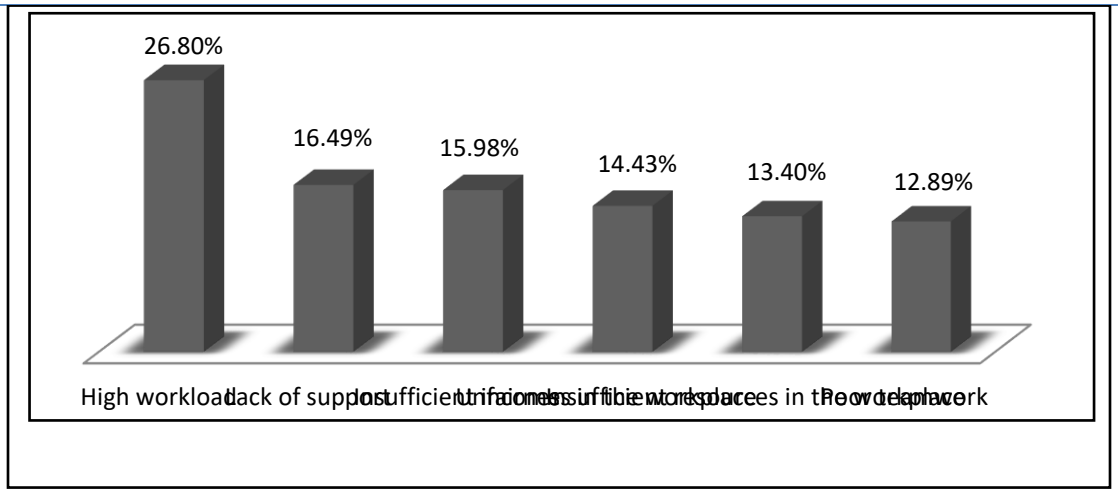

Figure 1: Distribution of nurses' perceptions of factors leading to burnout

DISCUSSION

The Prevalence of Burnout

The level of occupational exhaustion was moderate with the statistically significant differences; moreover, the level of the depersonalization /loss of empathy was high with the statistically significant difference and lower sense of the personal accomplishment assessment (PA) with a statistically significant difference.

This finding was supported by previous study in their study about socio-demographic and occupational issues of burnout syndrome in nurses working in medical amenities in Małopolska. They stated that the respondents reported average values of occupational exhaustion, a high level of depersonalization /loss of empathy, and a low accomplishment assessment. They also said that nurses employed in the critical care unit had a level of depersonalization /loss of empathy that higher than nurses employed in traditional treatment units (the emergency room = 0.25, 95% cardiac intensive care unit = 0.13–0.50) (Nowacka et al. 2018).

Furthermore, in another study reported the predominance of emotional exhaustion in nearly half of the nurses in their study, depersonalization in nearly one-quarter of the nurses, and lowered personal accomplishment in more than half of the nurses. They also reported that the level of overall burnout was moderate (Sillero & Zabalegui, 2018). Another study discussed the incidence of burnout syndrome amongst nursing staff employed at King Abdulaziz University Hospital in Saudi Arabia, said that the majority of the nurses had a high level of emotional exhaustion, a large number of them had a moderate level of depersonalization. The statistics also showed that the nurses had a low level of personal accomplishment (Habadi et al. 2018).

An analogous study was conducted about the burnout amongst intensive care nurses in King Saud Medical City (KSMC). The findings revealed that more than half of the nurse's studies had burnout, which is highly significant, with high levels of emotional excursion, high levels of depersonalization, and low levels of personal accomplishment (Awajeh et al. 2018). The present study is also supported by a study conducted about investigation to discover the occurrence of and reasons for occupational burnout syndrome amongst perioperative nurses in Saudi Arabia. Their findings reported that a significant level of emotional exhaustion was noticed in nearly three quarters of the studied nurses. Correspondingly, a high level of depersonalization was reported in more than half of the nurses, and 15.4% of nurses displayed a low-sharp sense of personal accomplishment (Almodibeg & Smith, 2021). No studies have been found that contradict the study results in the that the prevalence of burnout is usually high to moderate.

Factors Lead to Burnout: Nurses' Perspectives

The results of this study showed that the high workload is the factor that has the greatest input to nurses' burnout, followed by insufficient income, and then poor teamwork. The results of the present study are supported by the study conducted on the incidence of occupational burnout syndrome amongst perioperative nurses in Saudi Arabia and the contributing factors. The most significant factors they found were high workload, staff scarcity, poor teamwork, inadequate salary, and occupational threats. Also, deficiency of departmental provisions and adverse regulations in the workplace appeared to contribute to burnout (Almodibeg & Smith, 2021).

A study conducted to investigated burnout occurrence and its accompanying influences amongst Malaysian healthcare workforces throughout the COVID-19 epidemic. The foundations of burnout were found to be workloads, uncertainty caused by the pandemic, a difficult work–family balance, and stretched workplace relationships were all mentioned as causes of burnout by participants (Roslan et al. 2021). Also, a study conducted to assessed the work-related factors of nurses' burnout in the Pumwani Maternity Hospital, with the results showing that nearly three quarters of the respondents were

suffering from burnout. Even though no work-related influence was found to be statistically important in the burnout levels, role uncertainty and conflict were found to be an important predicator of burnout. Burnout levels were positively linked to both workload and burnout levels. Burnout was negatively linked to the provision of critical material reorders, remuneration, and a prolonged work shift (in hours) (Muriithi & Kariuki, 2020).

The similarity between the finding of the present study and the previous studies is that the main factor that leads to nurse burnout is likely to be higher workloads (Almodibeg & Smith, 2021)'(Roslan et al. 2021)'(Muriithi & Kariuki, 2020). These workloads are higher than ever before due to increased demand for nurses, the marked shortage of nurses in Saudi Arabia, and reduced staffing and increased overtime .Nurses working in the intensive care units have the added stress of working with critically ill patients who have multiple health needs.

RESEARCH LIMITATIONS

One of the limitations that the planned sample size was 125 participants and that the researchers were only able to collect 90 responses due to the constricted research period. The low response rate is also because of the high workload of nurses, as they did not have enough time to respond to the questionnaire. Extending the findings of this study to other critical care nurses from different hospitals where there are different personal and work-related characteristics like the age group, physical conditions, nurses' workload, or the type or length of the duty shifts may not be possible as this study was conducted only in single hospital, so the findings of this study may not be applicable to other geographic regions in Saudi Arabia.

CONCLUSION

Burnout is commonplace in many healthcare careers, especially nursing, in part because nurses interact closely with people as part of their responsibilities. Critical care nursing is especially stressful, and nurses employed in this setting are more vulnerable to progressive occupational burnout due to the nature of their work and its emotional demands (Tununu & Martin, 2020). Therefore, the present study was conducted to determine the prevalence of burnout syndrome among nursing working in intensive care units at King Fahd Hospital, Madinah region, KSA.

The main finding of the study was that the level of occupational exhaustion was moderate with the statistically significant differences; moreover, the level of the depersonalization /loss of empathy was high with the statistically significant difference and lower sense of the personal accomplishment assessment (PA) with a statistically significant difference. The high workload was the most factors that can lead to nurses' burnout, then lack of support, while poor teamwork was the least one.

Recommendations to the quality of nursing care

Based on the findings of this study, it is recommended to find associations and connections between psychographic and social-demographic features and burnout amongst nurses. Future studies should also focus on examining whether burnout inevitably affects patient care, for example by aggregating the incidence of errors or diminishing the obtainability of certain diversities of care.

The researchers recommend that nursing colleges and academies provide training and courses on stress management in the nursing career to prepare future nurses with coping strategies, which could help with decreasing the burnout level. Also, the hospitals should decrease the nurses' workload and adjust the type and length of nurses' duty shifts to decrease their burnout level. Also, healthcare organizations should generate and preserve administrative leaders who are enthusiastic about nurses' wellbeing. They must also continuously monitor and appraise the degree of burnout in the organization using authenticated tools. Moreover, the hospitals should address burnout in training and at the first nurses' career stages and ameliorate the foremost sources of stress by monitoring workload.

Furthermore, the hospital should establish consistent team meetings, which will provide an opportunity for the team to express and share their feelings and emotional state. The academic program should be carried out from time to time to improve the average level of physical activity and health of nursing staff.

CONFLICT OF INTEREST

The authors declared that present study was performed in absence of any conflict of interest.

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AUTHOR CONTRIBUTIONS

Su A and MM designed the study, conducted the literature review for the study, collected the data, analyzed the data, and also wrote the manuscript. Sa A and MH helped in designing and conceptualizing the manuscript, contributed critical intellectual content, and led revisions. All authors read and approved the final version.

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