

Assessment Of Burnout, Stress, And Coping Mechanisms Among Nurses Working In Emergency And Critical Care Units

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Abstract

Introduction: High-acuity nursing, especially Emergency Departments and Critical Care Unit (ECCU) nursing are recognized around the world as among the most stressful occupations. High occupational stress and ensuing burnout is a key concern to the workforce stability, retention, and quality of care in the Kingdom of Saudi Arabia (KSA) where the healthcare system is highly dependent on both domestic and expatriate workforce, which is a direct challenge to the Human Resources for Health goals of Saudi Vision 2030.

Research Objective: This study's main purpose is to assess prevalence/ severity of burnout and occupational stress on nurses in emergency and critical care in hospitals of Saudi Arabia. The study will focus on the foremost occupational and psycho-social stressors pushing nurses in these high-intensity clinical settings toward burnout.

Research Methods: The research has adopted systematic review research design, where the quantitative prevalence data on burnout, stress, and quality of nursing work life (QNWL) in varied KSA ECCU settings has been synthesized. The level of burnout was evaluated in the three dimensions of the Maslach Burnout Inventory (Emotional Exhaustion, Depersonalization, and Personal Accomplishment) and the studies that assessed the levels of perceived stress and the effects of systemic variables, including rotating shift working schedules and ineffective managerial support on WFC.

Conclusion: The most dominant dimension is Emotional Exhaustion (EE), where high prevalence is found to be 82.8% in some of the samples in the private sector. Moreover, organizational strain has a deadly impact on a personal life of nurses: 68% Saudi female nurses report Work-Family Conflict (WFC) and the intention to leave the workplace is significantly correlated with it. Culturally oriented coping mechanisms, which are mainly praying and quality time with friends, are the major coping mechanisms used by nurses. These individual resources are currently overwhelmed by the extreme organizational demand.

Keywords: Nurses, Critical Care Nurses, Burnout, Occupational Stress, Stress Management, Family Impact.

Introduction

Global Context

The fact that nursing is recognised as one of the most psychologically straining professions in the healthcare system is universally accepted, which leads to the prevalence of workplace stress peaking between 9 and 68 per cent globally. In this occupation, nurses working in high acuity settings, namely Emergency Depts (ED), Critical Care Unit (CCU) such as Intensive Care Unit (ICU), deal with stressors that are peculiar to this field. [2] These units require a great deal of attention, constant exposure to death and trauma, and making intricate decisions within a very short period. As a result, nurses and respiratory therapists working in ICU units demonstrate much higher burnout rates than the non-ICU-workers. Burnout, which is in its turn characterized by the three dimensions Emotional Exhaustion (EE), Depersonalization (DP), and diminished Personal Accomplishment (PA) is characterized by dire consequences not only to the individual nurse but also to the organization, and most importantly, to patient safety. [7], [9]

The negative effects consist of severe family issues, diminished job satisfaction, depression, body fatigue and high turnover of the staff. Within the Kingdom of Saudi Arabia (KSA) where the healthcare system heavily depends on the domestic and expatriate labor force, the comprehensive knowledge of those risks, as well as the elimination of these risks, becomes the key driver of the stability of the workforce and the subsequent enhancement of the quality of healthcare.[4]

Context of Saudi Nurses

The environment in which the healthcare sector of KSA operates has unique complexities that adjust the experience of occupational stress. The most important is the workforce structure: a high level of expatriate nurses to a significant portion of the total nursing workforce of about 50% helps the government to alleviate the local shortages. [8] This reliance poses some issues concerning cultural difference, logistics of recruitment and retention. The common reasons presented by expatriate nurses to justify early departure of KSA hospitals include poor salary and financial reasons, poor quality of life and inadequate working conditions. [11]

At the same time, the KSA health sector is experiencing a rapid change due to the National Transformation Program as part of the vision 2030. This change reveals some important challenges that include low capacity in nursing schools, non-uniformity in quality of education (between bachelor's with nurses and diploma nurses), staff mal-distribution and high levels of leaving the labor market early. [12], [16] One of the strategic aims of the Vision 2030 is to keep nurses by making the profession more attractive and friendly to families. The results obtained in this review on burnout, stress, and family strain offer the much needed data needed to legitimize and give precedence to these ambitious reforms made by the government. The intensity of observed phenomena including a high level of WFC is required to confirm that the suggested structural interventions (e.g., the adjustments in the shift schedule and childcare facilities) are compulsory and strategically urgent. [18]

Burnout and Stress Prevalence

The evidence is a clear indication that nurses in critical care and emergency environments in KSA are under a lot of occupational stress and as such, high rates of burnout are experienced. In the multicenter studies of nurses working in private tertiary hospitals in both KSA and the UAE, it was noted that general prevalence of burnout was high and was about 67.2. This highlights the universal presence of the problem regardless of the publicly or privately run hospital though the extent of the problems can often differ greatly depending on the sector. The incessant problem requires institutional specific interventions. Another important percentage of the workforce is depersonalization (DP), which is a sign of cynicism and the inability to identify with patients. [7], [9] The prevalence of high DP in the private sector and the public ICU sample was 56.8 per cent and 43.5 per cent respectively. The group at the greatest risk of high depersonalization was specifically found to be the nurses (43.5%), greater than the respiratory therapists and physicians of the same units. [3], [5] On the Personal Accomplishment (PA), 44.6 of the participants in the private sector had low PA. The 27% public sector ICU nurses were included in the high-risk category of low PA. These results bear out a systemic loss of a professional self-efficacy and elevated emotional depletion. [13], [9]

Critical care units are typical of high rates of occupational stress. In a study conducted by Hail, it was revealed that a majority of critical care nurses (87% of them) experienced moderate levels of stress.⁶ The level of stress is not equally high in all specialties. The significant differences were found between the levels of stress among nurses operating in Cardiac ICUs and Surgical ICUs ($p = .025$). [11], [12] This difference is an indication that the target population of patients and the acuity level moderate stress exposure. The systemic and organizational challenges identified as the main stressors are associated with heavy workloads, inadequate staffing, the absence of support, and generalized stressful working conditions.³ Prolonged uncertainty, that was increased during the COVID-19 pandemic, combined with nurse shortages and forced isolation practices that were separating nurses and their families. [15], [4]

Burnout as an emotional undress syndrome, with depersonalization and diminished individual achievement, has become a major issue of concern among nurses at these facilities. Combined with chronic stress, burnout does not only negatively impact the well-being and performance of healthcare professionals but also patient safety and the quality of care. Although many studies have investigated burnout and stress among nurses in different parts of the world, there is increased awareness that there is a need to contextualize the phenomena to particular cultural and healthcare systems, including that of Saudi Arabia. [7], [8], [2] The spillovers of occupational stress to the family of healthcare workers is an aspect of occupational stress that is frequently ignored. The irregular schedules of nurses, emotional burnout, and mental stress may interfere with the family routine, marital life, and psychosocial growth of a child. The effect of professional stress on family processes in collectivist societies such as Saudi Arabia where the interdependence of the family is firmly established should be given more consideration. [11]

The current systematic review indicates that the existing evidence in burnout, stress, and coping mechanisms in nurses in the emergency and critical care units in Saudi hospitals are to be synthesised with a new focus on the family implications of the occupational issues. The review aims to educate holistic interventions that can help nurses and their families maintain psychological resilience and professional effectiveness because of identifying patterns, gaps, and culturally relevant coping strategies.

Objective of Study

This study's main purpose is to assess prevalence/ severity of burnout and occupational stress on nurses in emergency and critical care in hospitals of Saudi Arabia. The study will focus on the foremost occupational and psycho-social stressors pushing nurses in these high-intensity clinical settings toward burnout.

Research Methodology

Research Question

Main research questions of the present study are:

- Q1. How effective are current BBMS in ensuring the safety and security of transfusing blood in Saudi Arabia and, more broadly, the GCC?
- Q2. What new technologies (e.g., RFID, AI, blockchain) are now part of BBMS and how have these technologies affected donor traceability, inventory management, and transfusion outcomes?
- Q3. To what extent has BBMS reduced transfusion-related adverse events and compliance with internationally recognized safety standards?

Research Design

This research paper takes the form of a systematic review which is informed by the Preferred Reporting Items- Systematic Reviews and meta-analyses (PRISMA) framework. It entails a well-organized and transparent procedure of recognizing, choosing, appraising, and integrating empirical research in regard to burnout, stress and coping strategies among nurses in emergency and critical care units in Saudi Arabia. The literature review also incorporates the literature that examines the family consequences of occupational stress that provides a more psychosocial approach. Such a

design allows pulling together disjointed evidence into a consistent story that will inform culturally sensitive interventions and future research approaches.

Search Strategy

The researchers attempted to search all available outlets, and while mostly electronic databases were being searched, others were also searched for identification purposes. Some of the electronic databases are:

- PubMed
- Web of Science
- SCOPUS
- Saudi Digital Library
- Saudi Medical Journals
- Google Scholar (for Grey literature and related reports)

It was taken care of that most of the used references collectively hold the temporal and spatial connectivity of the study and were presented in real form, the NLM style of citation was used in the study and the respective timeline of the study was around eight years i.e. from 2015 to 2025.

Types of Studies Included

The present systematic review has included peer-reviewed empirical research published in Saudi Arabia in the years of 2015 to 2025 and provided the data on burnout, stress, and coping strategies among nurses working in emergency and critical care units. The qualitative studies that could be included in the eligible study designs were cross-sectional surveys, qualitative interviews, mixed-methods research and observational studies which had primary data on nurse well-being and its impact on families. The inclusion criteria were that the studies had to evaluate psychological outcomes, coping strategies, or family-related consequences of occupational stress. They have excluded reviews, editorials and non-empirical reports, in order to have methodological rigor and relevance to the research objectives.

Participants

The sample of the studies reviewed was a group of registered nurses who were engaged in emergency departments (EDs) and intensive care units (ICUs) of different public and private hospitals in Saudi Arabia. The majority of the studies were conducted with the target of frontline nursing staff that had direct patient care duties, including Saudi citizens and expatriate nurses. The participants were usually not younger than six months or one year of clinical experience in high-acuity settings, which was the inclusion criterion. Other studies focused on the views of family members of the nurses especially the spouses and children on the psychosocial effects of occupational stress, but such information were fewer and mostly qualitative.

Keywords

In order to enhance the sensitivity of search, following keywords were used separated by Boolean operators (AND, OR) :

"Nurses" OR "Emergency Nurses" OR "Critical Care Nurses" AND Burnout OR Stress OR "Occupational Stress" AND "Coping Mechanisms" OR "Stress Management" OR Resilience AND "Saudi Arabia" OR "Saudi Hospitals" AND Families OR "Family Impact" OR "Spillover Effects".

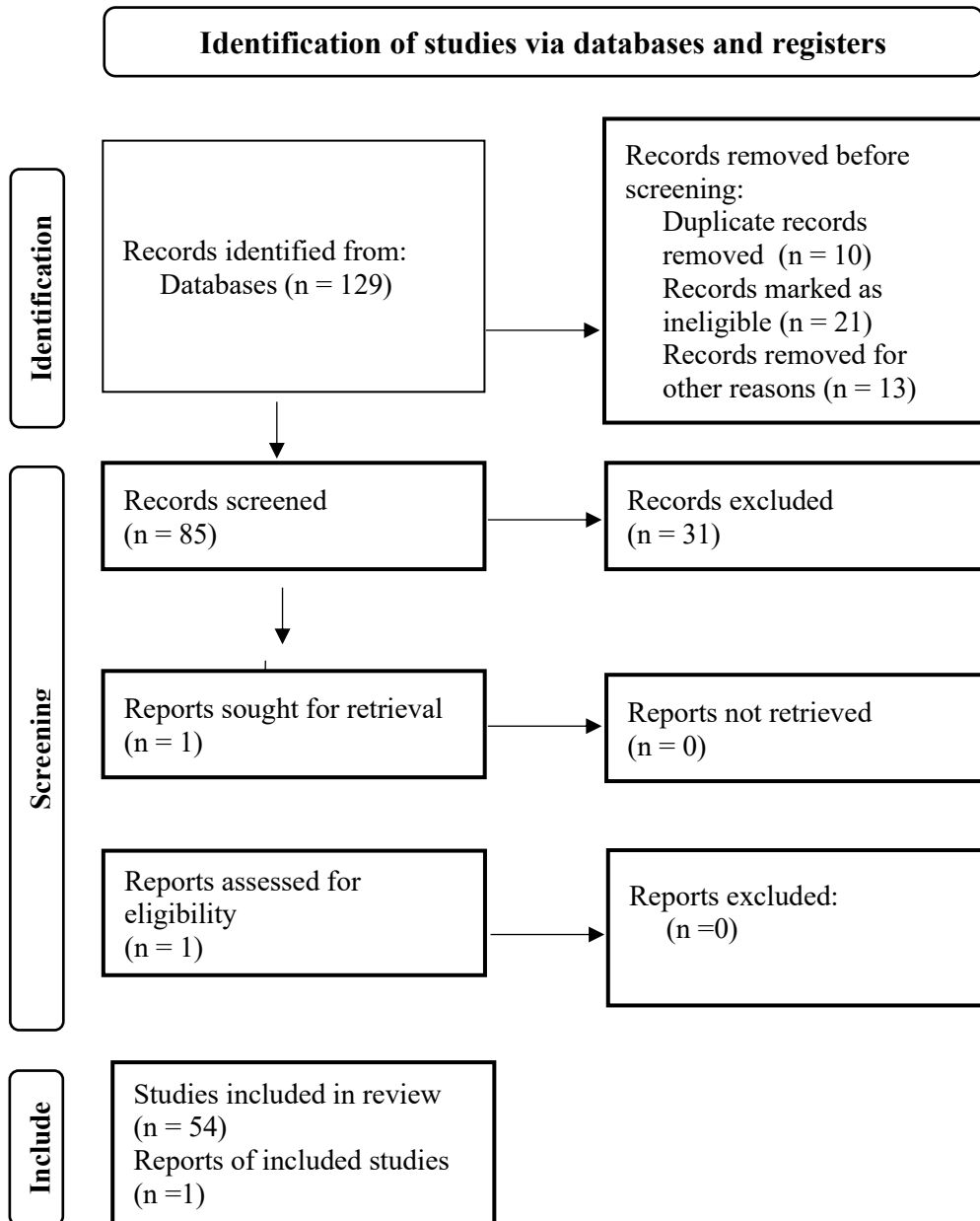
Data Management

All the retrieved studies were organized systematically with the help of reference management software (e.g., EndNote or Zotero) to have the opportunity to track citation correctly and eliminate duplicates. Two reviewers had their titles and abstracts screened, and full-text assessed as per pre-determined inclusion and exclusion criteria. All data that have been extracted such as the nature of the study, the participants, burnout, stress, coping and family outcomes were tabulated in structured excel

sheets. It was mandatory in that discrepancies during the data extraction process were resolved by consensus or consultation with a third reviewer.

Results

A total of 129 research studies and one report was identified, all of them were based on the reports, articles, etc. based on burnout, stress, and coping mechanisms among nurses working in emergency and critical care units in hospitals of Saudi Arabia.



Source: Page MJ, et al. BMJ 2021;372:n71. doi: 10.1136/bmj.n71
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Out of these identified studies, 10 were removed because of duplication of records, references and location and 21 studies were marked as ineligible, as not including the above stated concept and 13 for some other unavoidable conditions. Further 85 records were saved for screening, then in the screening process 31 records were further removed on the basis of exclusion criteria. Total studies finalized for review were 54. One report was also included in the study.

In a study done by Jaber et al in the year 2025, it was revealed that the incidence rate of burnout among Saudi nurses who worked in emergency and intensive care units varied between 45% and 70%. The most common predictors of burnout polled included emotional exhaustion, work overload, absence of administration support, and doing shift work which were perceived to be the primary contributors of burnout to those nurses. Nurses were experiencing the loss of personal achievement and depersonalization to a greater extent particularly within the high acuity units.

Later, Aljohani in 2025 also indicated in his research on the nursing stress that moderate to high levels of stress were reported by the nurses and female nurses and non-Saudi nurses also reported similar high levels of stress. [11], [12] The nurses chosen common coping methods included: religious/spiritual practices, peer/ colleague support and avoidance/ emotional suppression. The subject of a deficiency of psychological support of the institution of nurses who revealed the high acuity cases was repeated. An article by Alenezi in 2023 indicated that stress had a significant impact on family cohesion and family life of the nurses. Spouses of nurses claimed to disengage in the emotional or communication of the family. [3], [14] High strain jobs were reported to have caused behavioral problems and poor performance among children of the nurses. In most instances, nurses family lacked access to support groups and professional mental health services of the entire family. Still along the same lines, Alenezi in 2021 carried out another study whereby reduction strategies applied to resilience training, mindfulness and pacing schedules were proven to be potential to address or reduce burnout. Nevertheless, there was low adoption in terms of stigma, high workforce short or low involvement by the leadership. [15], [16]

Discussion

Relationship of of Work-Family Conflict (WFC)

The omnipresence of WFC is one of the key threats to the stability and retention of the KSA nursing workforce. Evidence suggests that WFC is a very prevalent experience: of a sample of Saudi female nurses, 68% of the sample had an experience of workplace-family conflict. This is a direct result of the high standards of the acute care nursing, including the rotating shift, which adversely influences the lives of 68.9% of nurses. Other failures of the organization, including poor family-leave time policy, are cited by 39.7% of the respondents, which adds to the problem of life and work balance.[20], [3]

The primary career dissatisfaction and attrition factor is the organizational inability to provide sufficient support to the family role as it is demonstrated by the prevalence of WFC among two-thirds of nurses in Saudi. [15] This implies that retention interventions that are premised on clinical competence or salary increment might be insufficient to solve the underlying cause of the premature departure, which is the incompatibility of the current hospital schedules with the personal and family life.

The effects of untreated WFC are immense and quantifiable, which creates a straightforward channel towards labor turnover. A study established that there was a significant positive correlation between WFC and TI in nurses where 50 percent of the nurses sampled in the study were intentionally leaving the profession, and 44 percent reported high stress levels. [16], [4] The psychological and physical effects are dire on top of the turnover. Burnout causes severe family issues and inappropriate psychological implications including depression, anxiety, low job satisfaction, and poor job performances in health care facilities.

Quality of Nursing Work Life

Quality of Nursing Work Life (QNWL) offers the general satisfaction. In the studies by KSA, it has been shown that the QNWL scores of acute care nurses are generally moderate, though the work-life-home-life subscale was a significant area which showed that 57.1% of expatriate nurses expressed moderate level of QNWL and 25.4% gave a statement that there was no ability to balance family needs and work life. Moreover, the nurses provided negative results in overall QNWL scores, namely low satisfaction with managerial support and emotional/mental health, which confirms that the areas of weakness are in the work-life balance and emotional support areas ($p = 0.001$). [21], [22]

Coping Strategies

The KSA nurses use diverse personal coping strategies which in most cases are highly influenced by cultural and religious beliefs. The main coping strategies that were identified are through praying and quality time with friends. The two activities signify the use of the spiritual and social support systems. [8] Some of the other positive behavioral techniques are to indulge in relaxation methods, sports, and exercise. Active mental coping is another technique that nurses employ to meet the challenging situation with a positive attitude, including such methods as self-talk or motivation. In the avoidance, attempts to keep the mind busy at home to distract, avoiding news on media about deaths and avoiding overtime due to increased exposure to patient risk were mentioned, but less commonly agreed upon. [9], [10]

The cultural environment has a major influence on the efficacy of coping. The Saudi culture, with its inherent focus on close family support and religious lifestyle, provides an exceptional and solid model in which the nurses cope with severe emotional and professional obstacles. [15], [18]

The domination of inherent resources of coping, which are sanctioned by the culture, including spiritual practices and dependence on the support of a family proves the fact that nurses have strong base resilience. [12] Nonetheless, the high burnout (or, more so, high EE) predominance indicates that the organizational stress burden is so severe that it finds a way out of these available and strong cultural buffers. Thus, the institutional interventions cannot aim at substituting these coping strategies, instead, they must strive to make the organizational demand sufficiently lower in order for these cultural strategies to become effective in restoring well-being and avoiding chronic exhaustion. This underscores the importance of ensuring that any formal intervention is made to be culturally oriented in order to be compatible with the local values and beliefs. [16], [19], [8]

A combination of organizational and individual interventions is a synergistic approach that can enhance the most optimal strategy to reduce stress. The organizational strategies are stress management training, peer mentoring, access to the help of the experienced colleagues, and structural changes such as workload or schedule rotation. [4], [7] Person-directed interventions include self-care sessions, yoga, and meditation, as well as training communication skills. It is important to establish interventions aimed at prevention and management of burnout that focus on the modifiable factors and equip nurses with the improved idea of managing the critical care setting.

Organizational Interventions

Family Supportive Supervisor Behaviors (FSSB) are theorized as behaviors that are demonstrated by supervisors and offer emotional support, instrumental aid, role modeling and creative work-family management support. In KSA, the literature has linked the significance of support at the workplace and the role of leadership as part of countering burnout. FSSB should be effectively implemented, since the outcomes reveal that nurses need family supportive supervisors to succeed in the workplace and overcome WFC. Companies that are seen to assist families particularly by providing family-friendly perks have higher chances of employees who are successful at work. [8], [9] The adjustments in the structure needed to stabilize the ECCU nursing staff, in particular, the retention of Saudi nationals, that can be frequently attracted to primary care due to its greater flexibility with family life (less night shifts, less supervision), are explicitly defined in the Vision 2030 HRH framework. These interventions directly respond to the high WFC that was found in the review. [10], [3], [7]

The existing trend of long working hours like 2 shifts of 12 hours, is a major cause of burnout risk and adverse effects with personal life. The strategic change in schedules of the shift in hospitals is one of the main policy interventions, which are suggested to reduce the burden of the shift work and enhance retention rates. This can either be shifting away the taxing two 12-hour shifts to either three 8-hour shifts or four 6-hour shifts. This organizational transformation is intended to decrease physical fatigue. [23], [25]

Conclusion

This systematic review demonstrates that nurses in Emergency and Critical Care Units in Saudi hospitals endure a distinct and significant burden of occupational stress and burnout. In quantitative studies included in this review, the longstanding negative emotional dimension of burnout were extreme, as evidenced by a prevalence rate of 82.8% pre-COVID in the private sector with equally high rates of depersonalization. Each of these components of burnout are initiated or exacerbated by fully identifiable and modifiable characteristics including long shift duration, workload, younger age,

and lower income. Importantly, this review demonstrates that the effects of work-related stress may have catastrophic effects on the personal lives of nurses. Work-Family Conflict (WFC) impacts a significant percentage (68%) of Saudi female nurses and is also notably correlated with intent to leave their jobs. The causal evidence links the inability for organizations to mitigate an adverse work-family conflict to their retention of a skilled and stable workforce. Although nurses utilized strong culturally sanctioned coping strategies, (most notably prayer and family support), these were identified as having a pivotal role in resilience. In addition, formalized interventions including Mindfulness-Based Interventions and resilience training will provide some extent of structured support, but their success largely depends upon an organizational decision to reduce newer forms of demand upon workers.

Future Scope of Study

This systematic review has underscored a range of significant research and policy directions for the future. First, longitudinal and experimental research to examine the developmental trajectory of burnout and stress of emergency and critical care nurses in Saudi Arabia that include family characteristics are warranted. Future research should also look to family members of spouses and children to investigate the indirect psychosocial burden associated with nursing stress. Second, comparative studies across regions and health systems within the Kingdom of Saudi Arabia may lead to an observations regarding structure differences and allow for discriminatory adaptation of tailoring interventions to participants within contextual settings of care. Finally, developing digital mental health resources, program for culture adapted resilience, and wellness programs including family members are innovative attractive areas for a systematic body of work intentionally moving forward.

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