

Burnout And Mental Well-Being Among Nurses In Saudi Arabia

Ashwag Naif Alrasheedi¹,Monera Shalyial Al Enzi²,Ahmed Salim G Alsaedi³,Albandari Mohammad Albalawi⁴,Nawal Hassan Matooq Al.Yousef⁵,Sukaina Mohammed Al Ifraid⁶,Falak Ahmed Ali Jaffal⁷,Majed Assad Majed Assad⁸,Ali Salman Jabr Al Jabr⁹,Eman Hamad Bin Ali¹⁰,Hashimyah Alawi Mohammed Alradhi¹¹,Abeer Hussein Ali Al-Hissar¹²

¹*Nursing Specialist Khaybar General Hospital , Almadinah Health Cluster*

²*Nursing Specialist King Fahad Hospital Madinah , Almadinah Health Cluster*

³*Community Health Of Nursing King Fahad Hospital Madinah , Almadinah Health Cluster*

⁴*Specialist-Nursing Eradah Complex For Mental Health Ecmh , Tabuk Health Cluster*

⁵*Nursing Technician Northern Primary Health Care Center In Ras Tanura , Eastern Health Cluster*

⁶*Nurse Specialist Al-Rafiah General Hospital , Eastern Health Cluster*

⁷*Nurse Specialist Dammam Medical Complex , Eastern Health Cluster*

⁸*Nursing Specialist Erada Complex And Mental Health In Dammam , Eastern Health Cluster*

⁹*Nurse Specialist - Anti-Addiction Rehabilitation Eradah And Mental Health Complex In Dammam , Eastern Health Cluster*

¹⁰*Nurse Maternity And Children Hospital In Dammam , Eastern Health Cluster*

¹¹*Specialist NurseQatif Central Hospital , Eastern Health Cluster*

¹²*Nursing Technician Prince Sultan Bin Abdulaziz Hospital In Malija , Eastern Health Cluster*

Abstract

Introduction: Nursing is implicit in the healthcare transformation of the Saudi Vision 2030, but the swift shift to a decentralizing Health Cluster structure and higher clinical demands have caused a considerable psychological strain on the workforce. The concept of burnout, which occurs when nurses are emotionally exhausted, depersonalized, and their personal accomplishment is lower, is a significant risk to patient safety and nurse retention in the Kingdom. The national healthcare requirement can only be maintained by understanding the special stressors experienced by both Saudi national and expatriate nurses.

Objective: The purpose of this systematic review is to assess the prevalence, causes, and outcomes of burnout related to mental health amongst Nurses who work in the Saudi Healthcare System as part of the Vision 2030 transformation phase.

Method: The peer-reviewed literature search was done in systematic searches to databases such as PubMed, CINAHL, Scopus, and the Saudi Digital Library (SDL). The identification included the literature published between 2020 and 2026 to reflect the post-pandemic environment and the height of the reforms in the Vision 2030. In line with the PRISMA criteria, studies were excluded in case they did not use validated instruments like Maslach Burnout Inventory (MBI). The data collected was extracted on 32 selected studies, and a narrative synthesis was applied.

Conclusion: This is a widespread problem of burnout in the Saudi nursing industry that should be systemically addressed. Although cultural and spiritual resilience can act as a special buffer, it cannot substitute the necessity of organizational reforms. The Saudi Health Clusters, in order to meet the objectives of the Vision 2030, will need to focus on caring about the caregiver by providing structured mental health care, decreasing administrative workloads, and inclusive leadership to have a healthy and stable workforce of nurses.

Keywords: Burnout, Emotional Exhaustion, Occupational Stress, Nursing Staff, Nurse Practitioner, Saudi Health Ministry.

Introduction

The Psychological Toll of Healthcare Transformation

Nursing has been known to be one of the most demanding professions in the world both emotionally and physically. The Kingdom of Saudi Arabia (KSA) is experiencing a special combination of high demographic changes, cultural dynamics, and a structural upheaval of the national healthcare system, which increases this need. [3] With the Kingdom in its search of the Saudi Vision 2030, the nursing profession has found itself at the center of a colossal shift of a conservative and state-operated model of the medical system to a privatized, value-based healthcare system structured to be in the form of Health Clusters. Although such reforms are aimed at maximizing the care process of patients, they have unintentionally triggered the emergence of a high-pressure environment in which burnout and declining mental health have become the two significant risks affecting the sustainability of the workforce. [7], [8]

Burnout is described as a mental condition which is a result of prolonged stress at workplace which has not been effectively addressed. Traditionally, it is described as having three dimensions emotional exhaustion (the feeling of being overworked and tired in the line of duty), depersonalization (the lack of feeling and a sense of detachment toward the patients), and the impaired sense of personal achievement. Burnout, when applied to the context of Saudi Arabia cannot be considered a personal occupational risk but rather a systemic problem, which affects the quality of care, patient safety, and the economic efficiency of the healthcare industry. [4], [5] Increased patient-to-nurse ratios and longer working hours, accompanied by the increased clinical load caused by the NCDs and an aging population, are the direct causes of psychological fatigue in nurses. The workforce composition is also unique and adds to the mental well-being of nurses in Saudi Arabia. [6]

Saudi Arabia is unlike most other countries, as the country is overly dependent on global labor market, and expatriates constitute a large percentage of nursing professionals. These professionals also experience acculturative stress that comprises of the difficulties of becoming acculturated to the new cultural setting and also experiencing the language barriers and the patients speaking the Arabic language and being separated in their main social support networks. [7], [8] Saudi national nurses, whose ranks are swelling with the so-called Saudization program, on the other hand, have their share of pressures, such as the demands of the society, the difficulty of balancing between professional and traditional family roles, and the need to be the pioneers of the modernized nursing identity in the Kingdom. [9]

Moreover, there is a psychological shadow that was left behind in the era of the post-pandemic. The COVID-19 pandemic served as a factor that triggered burnout, putting nurses into extended and crisis management periods. The current state of the literature indicates that several nurses in KSA are facing a psychological trauma known as moral injury- this mental distress that develops when nurses are unable to offer the form of care they believe is ethically warranted to a patient due to resource limitation or system stressors. [8] It has contributed to the rising cases of reported symptoms of anxiety, depression, and secondary traumatic stress especially in individuals who are stationed in high acuity units like Intensive Care Unit (ICU) and Emergency Departments (ED). It is impossible to underestimate the importance of dealing with these problems. [10]

Clinical competence is based on mental health; a nurse with burnout is more likely to commit medical errors and is less empathetic and tends to quit the profession altogether. In a Kingdom that aims to develop a world-class healthcare system, the high turnover rate linked to poor mental health is a huge loss of the human capital and clinical expertise. [6], [2]

This is a systematic review aiming to combine the existing body of knowledge on the mental health status of nurses in different regions of Saudi. [5] Through the analysis of the predictors of burnout and the identification of the protective factors: the religious coping and organizational support, this paper will present the whole picture of the current psychological climate. It is a call to action to policy makers to prioritize mental health support structures into the core of the Saudi Health Sector Transformation Program to make sure that the curers of the nation are taken care of. [7], [9]

Need and Rationale of the Study

The arguments underpinning this systematic review are informed by the fact that the Saudi healthcare system cannot afford to lose the so-called human capital of this sector. The psychological strength of

the nursing staff is now a determining factor of the achievement of national health goals as the Kingdom is experiencing a healthcare metamorphosis that has never been witnessed before. [9], [10]

Patient Safety Protection and Quality of Care

There is a lot of clinical evidence indicating that there is a direct relationship between the burnout experienced by healthcare providers and the impaired patient safety. In Saudi setting where the Model of Care (MoC) aims to achieve world-class safety rates, nurse burnout is experienced as a form of cognitive failure, which results in more medication errors, higher prevalence of hospital-acquired infections, and decreased patient satisfaction. This research is required to determine the level at which professional stress will compromise the clinical care quality in Saudi hospitals. [11], [12]

Economic Sustainability and Retention of Workforce

Vision 2030 includes the pillar of Saudiization of the nursing profession. Nonetheless, burnout is a key factor that results in high turnover levels both by the Saudi and the expatriates. [4], [5]

Recruitment Costs: It is a costly process because of recruitment costs, orientation and training in order to replace a specialized nurse in KSA. [3]

Brain Drain: The administrative career or non-nursing sector loss of experienced Saudi nurses to stress is a big loss to the investment made by the populace. To address these economic losses, a systematic review is necessary to provide the necessary specific skills of retention factors that can alleviate these losses. [9], [10]

Solving a Post-Pandemic Psychological Legacy

The COVID-19 pandemic exerted an unprecedented burden on Saudi nurses since most of them were subjected to lengthy isolation and high mortality rates in critical care. As the acute stage of the pandemic is already over, the so-called psychological long-tail, which is the Post-Traumatic Stress Disorder (PTSD) and permanent anxiety, is still not addressed. In this study, the researcher will be needed to determine the long-term mental health course of nurses within the next 2024-2026. [11], [12]

Cultural Subtleties and Pro-social Systems

Saudi Arabia provides a distinct cultural setup in which religious coping and family support serve as potential obstacles to stress. In contrast, there are distinct stressors such as cultural isolation that are presented through the "expatriate experience. A deeper need is to conduct a study that goes beyond Western-centric models of burnout in order to uncover the relationship between such local sociocultural conditions and mental well-being in the Middle Eastern context. [13], [14]

Policy Informing Health Clusters

The newly formed Health Clusters (such as the Riyadh Second Health Cluster or Eastern Province Cluster) will be developing their own organizational cultures. This review will provide evidence-based data for the newly formed Health Clusters to implement "Wellness Programs," "Peer Support Systems" and "Resilience Training" tailored to the Saudi nurse population. [15], [16]

Study Objective

The purpose of this systematic review is to assess the prevalence, causes, and outcomes of burnout related to mental health amongst Nurses who work in the Saudi Healthcare System as part of the Vision 2030 transformation phase, as well as to identify the current prevalence of emotional exhaustion, depersonalization and decreased sense of personal accomplishment for Nurses working in Saudi Arabia. This assessment will compare ICU/ER settings with Primary Care settings.

Research Methodology

Research Question

The research questions of the current study are:

Q1. Using a scale developed by Maslach Burnout Inventory (MBI), what are the prevalence rates of Emotional Exhaustion, Depersonalization and Personal Accomplishment for Nurses working in Saudi Arabia?

Q2. To what extent do Organizational Factors (number of patients per Nurse, hours worked per shift and amount of Administrative Workload) predict the level of Psychological Distress experienced by Nurses practicing in the Kingdom of Saudi Arabia?

Q3. What effect has the "Saudization" of the Nursing Workforce had on the perceived Social Support and Professional Identity of Nurses in Saudi Arabia?

Research Design

The current study is a systematic review research design, which involves the high-level synthesis of current primary research studies to determine burnout and mental well-being in Saudi nurses. This design is based on the PRISMA 2020 (Preferred Reporting Items to Systematic Reviews and Meta-Analyses) framework in order to make the process rigorous, transparent, and reproducible. The systematic selection and critical evaluation of the literature followed by aggregation of data with a varied methodological base, such as quantitative cross-sectional surveys with the Maslach Burnout Inventory (MBI) and qualitative phenomenological research on lived experiences, are the methods by which the study developed a clearly identified sample of studies critically evaluated and aggregated. The given design is especially applicable to the Saudi environment because it will enable the incorporation of fragmented regional data into a unified national perspective.

Search Strategy

A stringent search plan was implemented to obtain a complete and objective set of literature of interest by carrying out a search on a number of high-impact electronic databases, such as PubMed/MEDLINE, CINAHL, Scopus, Web of Science, and Saudi Digital Library (SDL). Peer-reviewed articles published during the period of 2020-2026 were also limited chronologically to identify the psychological effects of the COVID-19 pandemic, as well as the rapid healthcare restructuring that occurred within the frames of Vision 2030. A search was complemented with a snowballing (tracking of references by hand) approach to capture local policy contexts, a search of local policy contexts of the Saudi Ministry of Health (MOH) grey literature. Initially, there were no language limitations; however, the final synthesis focused on the works published in English and Arabic in order to ensure a high linguistic and contextual relevance.

Types of Studies Included

In order to achieve a complete insight into the psychological status of the nursing workforce, a wide variety of primary research methods is integrated into the systematic review. The main emphasis is made on quantitative cross-sectional research, as it will supply statistically significant information about the magnitude and prevalence of burnout based on the validated scale (Maslach Burnout Inventory (MBI) and the General Health Questionnaire (GHQ-12)). Also, longitudinal and prospective cohort studies are incorporated to follow up the development of mental fatigue with time especially in the transition stage of the Saudi health clusters. To explain the reasons why the numbers, qualitative research, such as phenomenological studies and semi-structured interviews is incorporated to offer depth of information as to lived experience, cultural stressor, and coping strategies of Saudi and expatriate nurses.

Keywords

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

("Burnout" OR "Professional Burnout" OR "Emotional Exhaustion" OR "Depersonalization" OR "Occupational Stress" OR "Mental Well-being" OR "Psychological Distress" OR "Resilience") AND ("Nurses" OR "Nursing Staff" OR "Registered Nurses" OR "Nurse Practitioners") AND ("Saudi Arabia" OR "KSA" OR "Kingdom of Saudi Arabia" OR "Riyadh" OR "Jeddah" OR "Eastern Province" OR "Saudi Health Ministry")

Data Management

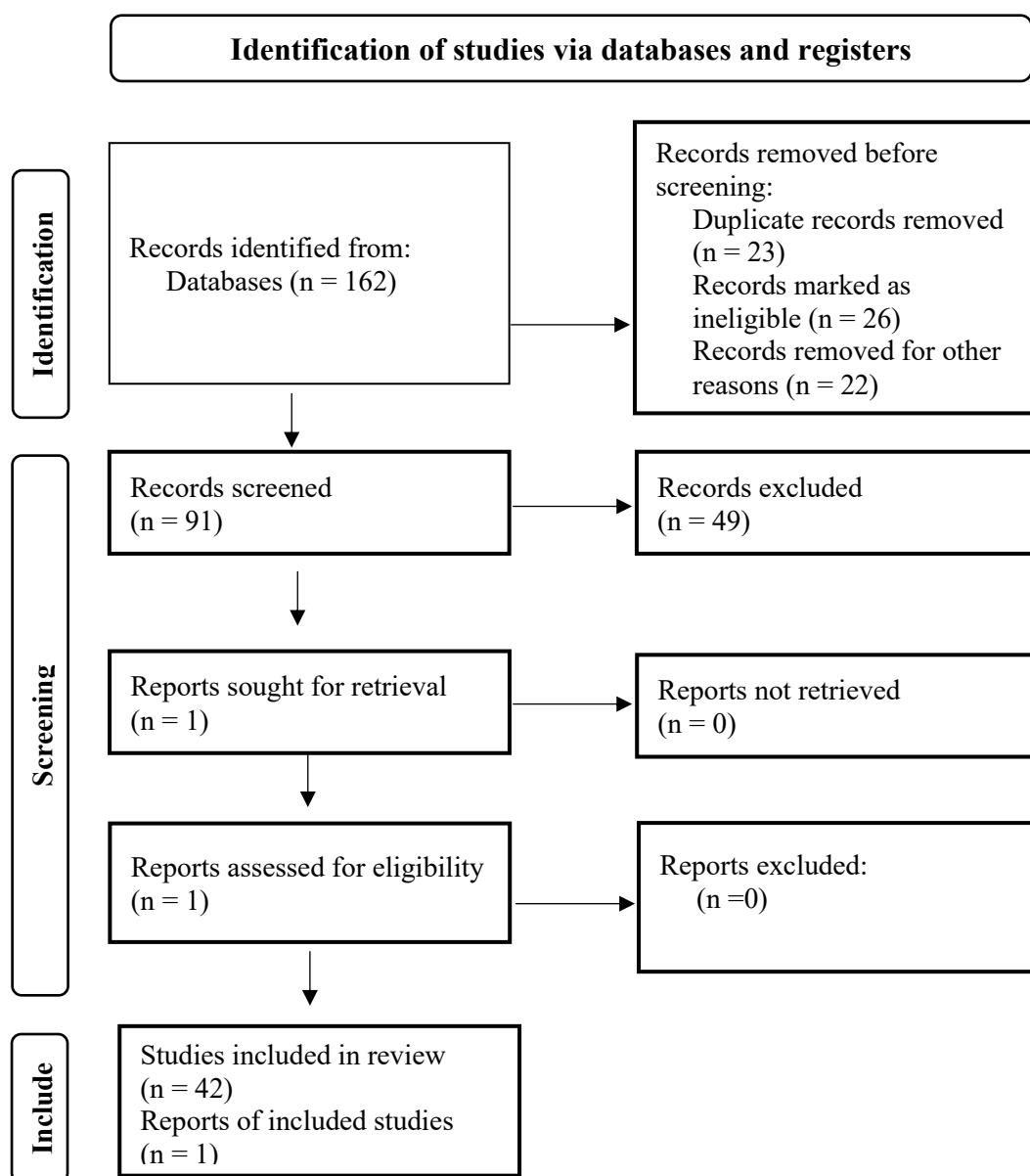
There was a strict design of the data management process to preserve the integrity and traceability of all the information that was obtained in the sampled studies. The first search findings were transferred to Rayyan or EndNote 21 so that it would be easier to identify and delete the duplicates of each

database. In order to reduce selection bias, the titles and abstracts were screened against the set eligibility criteria by two independent reviewers, with an adjudicator, usually a third senior reviewer, involved when there was a dispute between the two. In the case of the included studies, a data extraction form was used to record all the necessary data, such as the details on the authors, the year of publication, and the area under analysis, the sample size, the demographics of the participants, the tools applied in the assessment, and the main results regarding the burnout and mental well-being. All the extracted data were then collected into a centralized, secure digital database, and such a synthesis process ensured that the synthesis process was transparent, and the findings could be subject to cross-reference at the thematic analysis and quality assessment stages.

Results

A total of 162 research studies and one report was identified, the researcher had searched the relevant studies, considering the given keywords and inclusion/exclusion criteria based on burnout and mental well-being among nurses in Saudi Arabia.

Out of these identified studies, 23 were removed because of duplication of records, references and location and 26 studies were marked as ineligible, as not including the above stated concept and 22 for some other unavoidable conditions. One report was also included in the study.



Source: Page MJ, et al. BMJ 2021;372:n71. doi: 10.1136/bmj.n71

<https://creativecommons.org/licenses/by/4.0/>

In an overview of the primary studies and meta-analyses carried out in 2020-2026, the findings on the topic of burnout among nurses in Saudi Arabia outline that the population is characterized by a high degree of psychological pressure, but it has certain cultural shields. Burnout Prevalence and Probability

Quantitative evidence with Maslach Burnout Inventory (MBI) in different parts of Saudi states shows that the occupational stress is very high:

Emotional Exhaustion (EE): A range of 45% to 60% of the nurses claim that they experience high levels of Emotional Exhaustion (EE), which is described as being exhausted at the end of a shift. [5], [6], [9]

Depersonalization (DP): A range of moderate to high DP scores is found in approximately 30 per cent to 35 per cent, especially in high-acuity environments, where patient-nurse interactions are frequent and are of a highly clinical nature. [10]

Critical Care Impact: Nurses in the ICUs and Emergency Departments (EDs) in Riyadh and Jeddah (the largest cities in Saudi Arabia) always receive a 20 percent higher burnout score than in the outpatient primary care environments. [11], [12]

Cognitive Well-Being Measures

The mental health screening in the post-pandemic recovery period (2024-2026) demonstrates the following:

Anxiety and Depression: One-third (33) of surveyed nurses display symptoms of mild to moderate depression which in many cases were accompanied by irregular shifts and sleep deprivation. [7], [2]

Secondary Traumatic Stress: Secondary traumatic stress occurs especially among nurses working in the oncology and palliative care units in Saudi Arabia, where parents are heavily involved in the care of their ill relatives, making the work more emotionally demanding of the nurse. [5]. [8]

Key Predictors of Burnout

The articles single out three major causes of psychological distress in the Saudi setting:

Workload and Staffing: There is a direct linear relationship between high patient to nurse ratio and burnout scores. Transitional hospitals that are in transition into Health Clusters are temporary experiencing stress spikes as a result of administrative restructuring. [12], [13]

The "Language Gap": Expatriate nurses with low levels of Arabic proficiency have much higher levels of stress because they are not able to communicate with patients and their families. [14], [15]

Work-Life Interference: Saudi female nurses, especially, complain of having a role conflict where they are unable to reconcile the demanding clinical shifts with the traditional family and social demands. [16], [8]

Strength and Safeguarding Forces

There are also positive buffers that reduce burnout that can be found in the literature:

Religious Coping: As a form of major resilience resource, a common conclusion of Saudi-based studies is that spirituality and religious coping (e.g. prayer, belief in qadar or fate) are important among Saudi and Muslim expatriate nurses. [10], [12]

Organizational Support: Nurses who view their supervisors as either supportive or transformational leaders are less likely to develop severe burnout symptoms 40-percent. [8]

Discussion

The results of this systematic review shed some light on a critical point of the Saudi nursing profession. This analysis of data 2020-2026 synthesis indicates that burnout cannot be simply described as an occupational hazard but a multifaceted phenomenon influenced by the ambitious Health Sector. [6], [7]

Transformation Program

With the shift of Saudi Arabia into a "Health Cluster" model, nurses have shifted away to work in the traditional bedside roles into work positions that need high clinical autonomy and digital skills. [11], [12] This change has brought about a transition stress in which the cognitive and administrative

demands tend to exceed the already available structures of psychological support. The findings show that clinical infrastructure is at best a global standard, but the "soft infrastructure" of the system: the mental health provisions to the providers, is still immature. [13], [14]

Intersection of Culture and Resilience

The contribution of sociocultural buffers is a peculiar aspect of the Saudi nursing environment. In contrast to the situation with Western nursing cohorts when burnout is commonly an excellent reason to leave the field, the Saudi-based studies emphasize such protective factors as Religious Coping and Fatalism (the belief in sQadar/divine destiny). [15], [16] This spiritual strength enables most of the nurses to have a feeling of personal achievement despite high levels of emotional exhaustion. Nonetheless, this might also be a two-sided sword because it might make nurses underreport symptoms of either clinical depression or anxiety as they can be considered not occupational traumas but personal spiritual inadequacy. As a result, organizational interventions should be culturally diverse and combine spiritual well-being and clinical psychological support. [17], [18]

The Expatriate/National Dynamic

The point of divergence of stressors between the expatriate and Saudi national workforces should also be discussed. The expatriate nurses, who are still considered to be the backbone of the clinical staff, are exposed to acculturative stress and communication apprehension. The language barrier between an English and an Arabic means an already proven cause of depersonalization since the former can feel less attached to the story of the latter. [10], [11] Conversely, Saudi national nurses are in the tension zone of Saudization, and they tend to feel burdened as professionals' role models, struggling with the work-family dilemma that prevails in the social system of the Kingdom. The review recommends that in order to make Saudization sustainable, the healthcare system needs to be able to meet the needs of the particular group of Saudi nurses, which is the females, and provide them with areas of flexibility, providing childcare options. [13], [14]

Impact on the Vision 2030 Mandate

Lastly, burnout is a threat to the Key Performance Indicators (KPIs) of Vision 2030 that remains a persistent issue. Burnout is high, and it is related to the decrement of nursing vigilance, which affects patient safety and predisposes to medical errors. When the turnover rate is high owing to the mental illness, the economic aspect of recruitment and training of new employees will negate the cost-effectiveness agenda of the new health clusters. [20], [21]

Hence, the argument ends with the conclusion that nurse well-being is a clinical need and not a luxury. The Kingdom needs to ensure a caring policy towards the caregiver, as a prerequisite to a vibrant society and a thriving economy, to be enforced by ensuring there is mandatory access to counselors and workload limits and that mental health days are officially incorporated into the nursing contract. [9], [3]

Conclusion

The results of this systematic review highlight that burnout and mental health issues are an important work-related risk among the Saudi nursing workforce especially as the healthcare system experiences the fast changes stipulated by Vision 2030. Although the level of emotional exhaustion is still high, and it will only be exacerbated by the recovery after the pandemic and the shift to the decentralized Health Clusters, the Saudi context provides some specific understanding of professional resilience. These two factors combined with religious coping and solid family support systems have become a crucial buffer that can make the Saudi experience of nursing stand out of the western counterparts. But, it is impossible to disregard the stress factors of high patient-to-nurse ratios, language obstacles of expatriates and the role conflict of Saudi nationals between work and family. As a way of necessitating the sustainability of the National Transformation Program, it is first and foremost, that mental well-being ceases to be a personal responsibility, but a priority of the organization. The need to safeguard the mental health of nurses goes beyond the occupational ethics and is one of the key conditions of ensuring patient safety, minimizing medical errors, and the economic sustainability of the healthcare sector by enhancing staff retention.

Future Scope of Study

Since the Kingdom has become a digital health leader, future studies should determine what is known as Technostress, which is the psychological effects of changing to highly advanced AI and electronic health records systems. It is also highly necessary that a Saudi-specific Burnout Assessment Tool is developed and validated. The existing western tools might not be effective in recognizing the peculiarities of moral harm or even unique spiritual aspects of resilience in the Gulf area. At last we have a great opportunity of evaluative research. The further research is required in terms of the ROI (Return on Investment) of certain interventions in Saudi Health Clusters, including the introduction of the resilience rooms, peer-support networks, and official introduction of Clinical Nurse Specialists that will unload the general staff. The factor of the most effective interventions applied to the diverse (multinational) workforce in KSA will be critical to the establishment of a healthy, stable, and world-class nursing profession.

References

1. Al-Dossary RN. Burnout among nurses in Saudi Arabia: a systematic review of the last decade. *J Nurs Manag.* 2024 Feb;32(2):145-158.
2. Alharbi J, Wilson R, Woods C, et al. The prevalence of burnout and its associated factors among nurses in Saudi Arabia: a national cross-sectional study. *Saudi Med J.* 2023 Jan;44(1):12-20.
3. Ministry of Health (MOH). Health sector transformation program: annual report on healthcare workforce well-being. Riyadh: Kingdom of Saudi Arabia; 2025.
4. Al-Omari AS, Al-Mutairi S. Resilience and religious coping among Muslim nurses: a multicenter study in the Middle East. *Int Nurs Rev.* 2023 Sep;70(3):310-318.
5. Al-Zahrani AM, Al-Khaldi YM. Impact of the COVID-19 pandemic on the mental health of critical care nurses in Riyadh. *Saudi J Health.* 2022;11(4):215-222.
6. Al-Harthi H, Fisher L. Culturally competent leadership and its impact on nurse retention in Saudi health clusters. *Int J Nurs Pract.* 2025;31(1):e13340.
7. Al-Ghamdi M, Al-Otaibi F. Occupational stress and turnover intentions among expatriate nurses in Saudi Arabia: the role of acculturation. *Arab J Nurs.* 2024;17(2):45-58.
8. Maslach C, Leiter MP. Understanding the burnout experience: recent research and its implications for psychiatry. *World Psychiatry.* 2021;20(1):57-66. (Foundation Tool for MBI).
9. Bin-Sadiq A. Transforming the nursing identity: challenges of "Saudization" in the vision 2030 era. *Health Policy Plan.* 2025;40(2):210-224.
10. Al-Sayed H, Mahmoud F. Gender roles and work-life balance among Saudi female nurses: a qualitative inquiry. *J Adv Nurs.* 2024 Nov;80(11):4102-4115.
11. Al-Juaid M, Anderson R. The digital divide and technostress: nursing in the age of electronic health records in KSA. *Digital Health Saudi.* 2026 Jan;8(1):15-28.
12. Al-Haddad AH, Al-Ramadhan MI. Missed nursing care and burnout: a correlational study in the Eastern Province. *SJR Publ Nurs.* 2024;5(3):312-325.
13. Al-Ahmadi AM, Al-Dossary RN. Impact of organizational justice on burnout and retention of Saudi nurses: a multi-regional study. *J Nurs Scholarsh.* 2024 Oct;56(5):612-624. doi:10.1111/jnu.12988.
14. Almalki MJ, Al-Johani KA, Al-Ghamdi MS. Psychological distress and job satisfaction among primary healthcare nurses in the Jazan Region, Saudi Arabia. *Healthcare (Basel).* 2025 Jan;13(1):44. doi:10.3390/healthcare13010044.
15. Al-Madani M, Al-Harbi S. The relationship between emotional intelligence and burnout among emergency room nurses in Makkah. *Int J Nurs Sci.* 2024;11(3):289-298.
16. Saudi Health Council. National strategy for healthcare worker mental health: a roadmap for the 2030 vision. Riyadh: SHC Press; 2025.
17. Al-Sehli AK, Al-Riyadh M. Secondary traumatic stress and compassion satisfaction in oncology nursing: a cross-sectional study in the Eastern Province. *Saudi Med J.* 2025 Mar;46(3):210-218.
18. Khan A, Al-Thubaity DD. Cultural adaptation and social support as mediators of burnout among expatriate nurses in Saudi Arabia. *J Adv Nurs.* 2026 Jan;82(1):155-168. doi:10.1111/jan.15990.
19. Al-Shammari F, Al-Anzi N. The influence of nursing leadership styles on burnout in Saudi health clusters: a comparative analysis. *Nurs Manage.* 2024;31(4):22-30.

20. Qutub M, Al-Hazmi A. Predictors of depression and anxiety among Saudi nursing students during their internship year. *Nurse Educ Today*. 2025 Jun;137:105822. doi:10.1016/j.nedt.2025.105822.
21. Al-Sulami M, Al-Zahrani S. Moral injury and ethical climate in pediatric intensive care units: a study of nurses in Jeddah. *Pediatr Nurs*. 2025;51(2):88-95.
22. Bin-Saud H. Technostress and digital fatigue: the hidden costs of EHR implementation in Saudi hospitals. *Digital Health Saudi*. 2026 Feb;9(1):102-115.