

# The Impact Of Workload And Work Environment On Nursing Job Dropout In Saudi Arabia

**Samah Ibrahim Fawaz Almugathawi<sup>1</sup>, Tagred Ibarhim Fawaz Almgadawi<sup>2</sup>, Badryah Slman Alhawiti<sup>3</sup>, Mazonah Awad H Albalawi<sup>4</sup>, Abdulrhman Mohammed Awad Alatawi<sup>5</sup>, Manar Ibrahim Alaradi<sup>6</sup>, Sultan Ibrahim Fawaz Almaghthawi<sup>7</sup>, Salim Sary Alatawi<sup>8</sup>, Emad Naif Mshhen Albalawi<sup>9</sup>, Awad Mohammed Al-Atawi<sup>10</sup>**

<sup>1</sup>*Nurse Technician, Bachelor of Science, Health Services and Hospitals Management, Tabuk Health Cluster, Eradah Complex For Mental Health*

<sup>2</sup>*Senior Specialist in Nursing, Model of Care Administration at Tabuk Health Cluster*

<sup>3</sup>*Nursing Technician, Assistant Department for Performance and Compliance*

<sup>4</sup>*Nursing technician, Assistant Department for Performance and Compliance*

<sup>5</sup>*Nursing Technician, Tabuk Health Cluster, Eradah Complex For Mental Health*

<sup>6</sup>*Nursing Specialist, Tabuk Health Cluster, Eradah Complex For Mental Health*

<sup>7</sup>*Nursing Specialist, Tabuk Health Cluster, Eradah Complex For Mental Health*

<sup>8</sup>*Nursing Technician, King Fahad Specialist Tabuk*

<sup>9</sup>*Nursing Technician, Assistant Department for Performance and Compliance*

<sup>10</sup>*Nursing Technician, Tabuk Health Cluster, Eradah Complex For Mental Health*

## Abstract

The nursing profession is an essential element of the healthcare system, with nurses playing a pivotal role in delivering quality patient care. The elevated rate of nursing job attrition has emerged as a significant problem for healthcare providers globally. The nursing shortage has emerged as a global concern, with the elevated rate of nursing job attrition greatly exacerbating this issue. Consequently, it is imperative to examine the determinants of nursing job attrition and formulate methods to mitigate it. Prior research has identified multiple factors contributing to nurse job attrition, including workload, work environment, and job satisfaction. Nonetheless, there is insufficient data regarding the specific influence of workload and work environment on nursing job attrition in Saudi Arabia. Despite the considerable influence of workload and work environment on nursing job attrition, research on this subject in Saudi Arabia is insufficient. This study seeks to address the information gap by examining the influence of workload and work environment on nurse job attrition in Saudi Arabia. This study is crucial for addressing the nursing shortage in Saudi Arabia and for elucidating the factors that lead to nursing job attrition. This study aims to elucidate the precise effects of workload and work environment on nursing job attrition, thereby offering critical insights for healthcare providers to formulate strategies that mitigate nurse job turnover and enhance patient care quality.

**Keywords:** Work load; Dropout; stress; Nursing ; Saudi Arabia.

## Introduction

The nursing profession is an essential element of the healthcare system, with nurses serving a pivotal role in delivering quality patient care. The elevated rate of nursing job attrition has emerged as a significant problem for healthcare providers globally. Stressful working environment, extensive responsibilities and heavy workloads in healthcare sectors put health care workers at the highest risk of burnout and drop out. Prolonged exposure to stress representing a timing bomb in health organizations(1,5).

The term "burnout" was initially introduced by American psychologist Herbert Freudenberger in 1974. Herbert employed the term to characterize the profound fatigue encountered by professionals in caregiving roles, including police officers, physicians, and nurses. Currently, the word encompasses all professionals experiencing a severe level of stress. Burnout is characterized as "a condition of emotional, mental, and physical fatigue resulting from excessive and prolonged stress" .In recent

decades, the problem of burnout has garnered significant attention from researchers examining its detrimental impacts on staff, patients, and healthcare organizations(1).

The World Health Organization reports a worldwide deficiency of healthcare workers, with nurses and midwives constituting over fifty percent of the current demand. The WHO projected that the world will need an additional 9 million nursing and midwifery professionals by 2030. In 2018, the Kingdom of Saudi Arabia engaged 184,565 nurses. Nonetheless, merely 70,319 (or 38%) were Saudi nationals, resulting in a ratio of 5.5 nurses per 1,000 individuals, which is approximately half that of other high-income nations, where the average is 8.24 nurses per 1,000 people(2). The nursing shortage has become a global issue in Saudi Arabia, significantly worsened by the high rate of nursing job attrition. Nurses often desire a constructive work setting that fosters their sense of value, and such an environment correlates with enhanced hospital performance. Examining the factors influencing nurses' job performance is essential in this context(3).

Thus, This review highlights The Impact of Workload and Work Environment on Nursing Job Dropout in Saudi Arabia as it is imperative to examine the determinants of nursing job attrition and formulate methods to mitigate it.

### **Workload in Nursing**

The terms "work" and "load" describe the workload in two distinct ways. "Work" refers to "a job or activity that you do on a regular basis, mostly to make money," while "load" is defined as "a quantity that can be transported at once by a specific means" (Merriam-Webster). An alternate definition of "workload" is "the amount of work accomplished or capable of being performed normally within a particular period." One (4)

A nurse's workload is the quantity of work that is required to complete an assignment. The term "nursing work" encompasses both direct patient care and administrative tasks that have nothing to do with patients (6). Workload is a measure of the nursing requirements to meet patient demands and an increase in the demand for nursing services or nursing talents. A nurse's workload was described as the "amount and level of nursing work" in ( 7). The most appropriate definition of nursing workload, according to (8), is "the totality of the requirement for nursing time from all tasks that must be carried out over a given period of time" (4).

There are four categories for measuring nursing workload: The workloads at the (1) unit level, (2) job level, (3) patient level, and (4) circumstance level are embedded in the job-level workload, which is subsequently integrated in the unit-level burden. For instance, a group of nurses working in a clinical unit have a lot of nursing tasks to complete in a single shift. This sort of workload, known as the job-level workload, is influenced by the type of unit and specialty of nurses (e.g., intensive care unit [ICU] nurse versus general floor nurse). Throughout their employment, nurses deal with a range of patients and situations, which affects workloads at the situational and patient levels, respectively (10).

### **Workload at the Unit Level**

The nurse-patient ratio is the most used metric for assessing workload at the unit level. Analyze patient outcomes in relation to nursing staffing using the nurse-patient ratio. Increased workloads for unit-level nurses have been shown to have a negative impact on patient outcomes. These studies simply recommend raising the nurse-to-patient ratio or decreasing the patient load per nurse. These solutions may be unworkable due to high expenses and a shortage of nurses. This research approach conceptualizes nursing workload at the macro level, ignoring contextual and organizational factors such as physical layout and information technology availability, which can have a substantial impact on workload. Research should look into how health care microsystem elements affect nurse workload(11-13).

### **Workload by Job Level**

This notion posits that workload differs by nursing specialty (ICU versus operating room).(14) investigated the burnout and performance of ICU nurses via a job-level workload assessment. Workload has been linked to nursing outcomes such as stress and job dissatisfaction. ICU nurses and ward nurses should be evaluated using job-level workload metrics(15). Nonetheless, workload is intricate and multifaceted, and contextual factors within a nursing work environment (e.g., performance obstacles and enablers) may influence burden beyond mere job designation. Contextual factors in each ICU may

result in differing workloads for two medical ICU nurses. The job-level understanding of workload fails to elucidate the disparity among these nurses(16).

### **Individual Patient Workload**

This idea posits that the clinical condition of the patient dictates the workload of the nurse. Numerous patient-level workload assessments, such as the Therapeutic Intervention Scoring System, have been thoroughly examined in nursing literature, grounded in therapeutic qualities pertinent to the patient's condition. Recent studies indicate that elements beyond the patient's clinical condition, such as inadequate communication and insufficient supplies, can significantly elevate nursing burden. Similar to the prior two workload metrics, patient-level workload measures have not been developed to assess the influence of contextual factors on nursing effort(10).

### **Contextual Workload**

In a prior study, we discovered that performance impediments and enablers within an ICU microsystem—such as an inadequate physical work environment, insufficiently stocked supplies, numerous family demands, and ineffective multidisciplinary team communication—substantially influence situation-level workload. Multiple family members may individually contact a nurse to inquire about the same patient's condition. Responding to several calls and communicating the patient's condition to various family members constitutes a performance challenge that significantly elevates the nurse's situational burden(17).

The effect of this performance barrier on nursing labor would not be evident using unit- or patient-level workload metrics. Situation-level workload, in contrast to job-level workload, is temporally constrained: it elucidates how a particular performance impediment or enabler influences nursing workload within a clearly delineated and relatively brief timeframe (e.g., 12-hour shift), rather than considering the nurse's comprehensive microsystem experience. Situational workload is multidimensional since performance barriers and enablers influence various workloads. The proximity of a nurse's patients' rooms influences her physical workload, while the work environment (noisy versus tranquil, hectic versus serene) affects her overall exertion. No research has investigated the impact of microsystem characteristics on situation-specific nursing workload(18).

### **Work Environment in Nursing**

Lake (2002) defined the work environment as the organizational characteristics of a work setting that either promote or obstruct professional nursing practice.

A healthy workplace for nurses is safe, empowering, and fulfilling. A secure and healthy workplace fosters sustained peak performance and is continuously enhanced.

Work environment factors are characteristics of the job and its environment. Fourteen of twenty-one studies have found factors related to the work environment that affect nurse turnover in Saudi Arabia. Among these studies, eight indicated that job satisfaction had a negative correlation with nurse turnover or turnover intention (20-26). One study, however, indicated a negative connection between the nursing practice environment and turnover (23). Moreover, a study suggested that leadership style indirectly affects staff retention intentions by mediating job satisfaction (27). A distinct investigation revealed that the lack of nurse participation in hospital operations increases nurse turnover and the desire to exit the profession. Furthermore, discrimination is demonstrated in two studies (29,30), whereas cultural diversity is recognized as a factor affecting turnover in another study (31). The quality of work life affects employee retention intentions; yet, the attributes of the work environment and job designs demonstrate a substantial relationship with turnover intentions. Employment challenges (33) and insufficient possibilities for decision-making. Each referenced study reported (34) once. A study suggests that communication satisfaction and workplace attitudes adversely influence turnover (35). Furthermore, bullying is recognized in one study (36).

### **Nursing Job Dropout Rates in Saudi Arabia**

Saudi Arabia's healthcare system is significantly affected by elevated rates of employee turnover and turnover intention. The Saudi healthcare system faces challenges due to a shortage of domestic healthcare experts. The predominance of expatriate healthcare professionals results in elevated turnover rates and workforce instability. A significant expense for healthcare providers is the remuneration of

proficient medical personnel. A significant number of physicians, nurses, and paramedical personnel in the Kingdom of Saudi Arabia are inclined to migrate to Western countries due to the superior possibilities and training resources available in such areas.

To tackle the difficulties faced in recruiting expatriate nurses, one viable solution is to engage nurses in the recruitment process. This would ensure the quality of the nurses and verify that the suitable people are chosen for the right positions. Retention is markedly improved when the right individual is in the appropriate position, as it increases satisfaction. The primary purpose in recruitment should prioritize quality over quantity. Administering interviews and evaluations of these nurses may enhance the assurance of this quality(9).

It is essential to improve the integration of expatriate nurses into the workplace and the wider community. To ensure the successful integration of expatriate nurses into Saudi Arabia, it is essential to provide requisite educational training in Arabic, communication skills, and local culture before the initiation of their employment. Nurses derive greater job satisfaction when they are culturally and socially accepted, especially by their families and relatives. Imparting this crucial knowledge in language and cultural aspects might expedite this process.

Ensuring that expatriate nurses have adequate communication skills may enhance the recruiting and selection process. Effective communication is a vital organizational component that can mitigate the issue of nurse retention. As previously said, despite English being compulsory in educational institutions, the majority of Saudis do not engage in English conversation, and most expatriates are unable to speak in Arabic. For numerous expatriate nurses, English functions as their second language, which may prove inadequate. Implementing continuing education programs would foster a sense of importance and belonging among expatriate nurses. Educational opportunities for nurses substantially improve their professional growth and influence job satisfaction(9).

The analysis highlighted multiple issues in Saudi Arabia that necessitate addressing. Three themes were identified in the analyzed papers: individual-related elements (demographic, psychological, and personal), work environment factors, and organizational characteristics. This review identified work environment and organizational characteristics in 20 of the 21 research examined. A thorough evaluation of the turnover rates among newly qualified nurses revealed 73 characteristics related to the work environment, of which 20 showed a significant link with turnover (37). Job unhappiness, quality of life, and discrimination are prevalent workplace factors. This enables a methodical analysis of nurses' intention to remain in acute care. The review suggested that an enhanced atmosphere retains nurses (38). A distinct study advocated for the improvement of the workplace (39) and the reduction of employee turnover (37). Tisco agrees with the thorough assessment from Saudi Arabia that monthly compensation affects nurses' decisions to leave (40). A Korean study revealed that remuneration predicts nurse turnover, especially for nurses over the age of 36. Compensation was recognized as a factor influencing turnover in California (41) and in the United States (42). This discovery contrasts with European research that fails to account for pay (43). A meta-analysis revealed that compensation is a less dependable predictor of turnover. The World Health Organization promotes fair remuneration to improve retention. While leadership style affects job satisfaction, which is significantly linked to employee retention, it has not been shown to directly effect retention rates (44). A comprehensive assessment revealed that positive leadership, especially ethical leadership, reduces turnover intentions. A further meta-analysis, Nursing Forum 13, corroborates this by illustrating that supportive and communicative leadership significantly predicts turnover [45]. Factors are complex and can be classified into diverse categories. Although consistent classification is attainable, it is imperative to prioritize the identification and treatment of certain characteristics. This study clarifies the elements leading to employee turnover, particularly in Saudi Arabia. Nationality is an attribute linked to the individual; nevertheless, evidence remains equivocal. Foreign nurses demonstrate a higher turnover rate than Saudi nurses due to substantial dependence on expatriates [46]. This factor is occasionally referenced in assessments or investigations [47]. This is supported by a study on turnover studies from both European and non-European contexts. Research conducted outside the EU acknowledged nationality and ethnicity as variables, whereas no research within the EU did so [43]. The psychological

and personal factors, including emotional fatigue, mental health, personal achievements, physical health, stress, familial responsibilities, pregnancy, retirement, low resilience, individual concerns, family dynamics, spousal support, and higher education, were consistent with other reviews[47]. A multiyear turnover investigation in California confirms that familial issues are a primary factor for resignation [41].

### **Impact of Workload on Job Dropout**

Workload in nurses can be associated on a high level with intentions to leave their posts. Very high workload is known to lead to burnout, job dissatisfaction, and turnover. For instance, a study in showed that greater workload was related to higher levels of job burnout, which in turn were associated with higher turnover intentions among nurses(48).

Studies in Saudi Arabia also showed heavy workloads were one of the contributors to nurse turnover. A study among nurses in the tertiary care hospitals in Riyadh found that the high workload resulted in lower job satisfaction and higher intent to leave(49).

Workload and staffing concerns were seen to be the main reasons for job turnover of nurses in a Saudi Arabian health facility.

### **Psychological and Emotional Consequences of Workload in Nurses**

Heavy workloads often place a serious psychological and emotional strain on nurses, which may manifest in burnout. Burnout basically means emotional exhaustion, depersonalization, and decreased sense of personal fulfillment. Burnout affects the well-being of the nurses and has consequences for the quality of care provided to the patients. A study of nursing clinics concluded that burnout among nurses is an important factor affecting patient safety, quality of care, and retention of nurses(50). High work pressure is linked to higher levels of stress, anxiety, and depression among nurses, which in turn, increase the intentions of nurses to leave (51).

The workload factor plays an important role in retaining registered nurses and directly impacts the quality of patientcare positively. Strategies employed to handle heavy workload pressures are staffing, supportive leadership, and promotion of work-life balance.

### **Impact of Work Environment on Job Dropout**

Work environment is a critical determinant of nurse retention, and organization support and work-life balance are major factors that determine whether nurses will stay in their jobs or not. However, A supportive organizational culture enhances job satisfaction and turnover intentions among nurses.

Indeed, nurses who perceive high support from the organization are more likely to continue being committed to their roles. Work-life balance is significant in nurse retention. Heavy workloads and rigid work schedules act as catalysts for burnout and nursing job abandonment. Literature indicates that work-life balance promotes nurse retention. In the Arab State of Saudi Arabia, the following cultural and organizational elements influence nursing environments: The Saudi healthcare system relies on expatriate nurses, and this creates problems in integration and communications. These differences in cultural norms and language could have an effect on job satisfaction and retention. The leadership styles of Saudi healthcare have a big influence on nurse retention. The transformational leadership style, such as being caring and empowering, for example, has been related to higher engagement at work among nurses.

Limited opportunities for career advancement and professional growth breed job dissatisfaction among Saudi nurses. Thus, well-defined career pathways and development programs are of paramount importance to ensure the retention of nursing staff(52)

These can be improved by supportive leadership, cultural competency training, and opportunities for professional development that would enhance nurse retention in the Saudi Arabian healthcare sector.

### **Conclusion**

In summary, A high workload level is consequently linked to burnout, job dissatisfaction, and rise in dropout intentions. Such an intense level of workload at unit, job, patient, and contextual levels directly affects the scope of nursing and quality of patient care. This represents organizational attributes like leadership style, job satisfaction, and work-life balance, all features deemed pivotal for retaining nurses. Moreover, Heavy workload promotes emotional exhaustions, anxiety, and burnout, while compromising patient safety and nurses' well-being. Regarding Saudi Arabia, Reliance on heavy expatriate nurses generates problems regarding cultural integration and stability of the workforce. The current study consequently appeals for workload management strategies and supportive work environments as a means of combating nurse turnover in the Saudi Arabian health care with an assurance of quality.

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## References

- (1) Batayneh, M. H., Ali, S., & Nashwan, A. J. (2019). The burnout among multinational nurses in Saudi Arabia. *Open Journal of Nursing*, 9(7), 603-619.
- (2) Alkorbi, S. A., Almutairi, D. R., Alghabbashi, M. T., Aly, S. M. M., & Alsulami, S. A. (2022). The effect of work environment on the job performance among nurses at Makkah City, Saudi Arabia. *International Journal of Health Sciences*, 6(S6), 4889–4921.
- (3) AlYami, M. S., & Watson, R. (2014). An overview of nursing in Saudi Arabia. *Journal of Health Specialties*, 2(1), 10-12.
- (4) Alghamdi, M. G. (2016). Nursing workload: a concept analysis. *Journal of nursing management*, 24(4), 449-457.
- (5) Alsadaan, N.; Jones, L.K.; Kimpton, A.; DaCosta, C. Challenges Facing the Nursing Profession in Saudi Arabia: An Integrative Review. *Nurs. Rep.* 2021, 11, 395-403. <https://doi.org/10.3390/nursrep11020038>
- (6) Cawthorn L. & Rybak L. (2008) Workload measurement in a community care program. *Nursing Economics* 26 (1), 45–48.
- (7) Arthur T. & James N. (1994) Determining staffing levels: a critical review of the literature. *Journal of Advanced Nursing* 19, 558–565.
- (8) Needham J. (1997) Accuracy in workload measurement: a fact or fallacy? *Journal of Nursing Management* 5, 83–87.
- (9) Alsadaan, N.; Jones, L.K.; Kimpton, A.; DaCosta, C. Challenges Facing the Nursing Profession in Saudi Arabia: An Integrative Review. *Nurs. Rep.* 2021, 11, 395-403. <https://doi.org/10.3390/nursrep11020038>
- (10) Carayon P, Gurses A. Nursing workload and patient safety in intensive care units: a human factors engineering evaluation of the literature. *Intensive Crit Care Nurs.* 2005;21:284–301. [PubMed] [Reference list]
- (11) Lang TA, Hodge M, Olson V, et al. Nurse-patient ratios: a systematic review on the effects of nurse staffing on patient, nurse employee, and hospital outcomes. *J Nurs Adm.* 2004;34(7–8):326–37. [PubMed] [Reference list]
- (12) Amaravadi RK, Dimick JB, Pronovost PJ, et al. ICU nurse-to-patient ratio is associated with complications and resource use after esophagectomy. *Intensive Care Med.* 2000;26(12):1857–62. [PubMed] [Reference list]
- (13) Needleman J, Buerhaus P, Mattke S, et al. Nurse-staffing levels and the quality of care in hospitals. *N Engl J Med.* 2002;346(22):1715–22. [PubMed] [Reference list]
- (14) Schaufeli W, Le Blanc P. Personnel. In: Miranda DR, Ryan DW, Schaufeli WB, et al., editors. *Organisation and management of intensive care: a prospective study in 12 European countries*. Berlin: Springer-Verlag; 1998. pp. 169–205. [Reference list]
- (15) Oates PR, Oates RK. Stress and work relationships in the neonatal intensive care unit: are they worse than in the wards. *J Paediatr Child Health.* 1996;32:57–9. [PubMed] [Reference list]
- (16) Carayon P, Gurses AP, Hundt AS, et al. Performance obstacles and facilitators of healthcare providers. In: Korunka C, Hoffmann P, editors. *Change and quality in human service work Vol 4*. Munchen. Germany: Hampp Publishers; 2005. pp. 257–76. [Reference list]
- (17) Gurses AP, Carayon P. Performance obstacles of intensive care nurses. *Nurs Res.* 2007;56(3):185–94. [PubMed] [Reference list]

(18)Gurses AP. ICU nursing workload: causes and consequences—final report. Rockville, MD: Agency for Healthcare Research and Quality; 2005. Available at: [http://hfrp.umaryland.edu/People/gurses\\_AHRQ\\_final\\_report-06-15-05.pdf](http://hfrp.umaryland.edu/People/gurses_AHRQ_final_report-06-15-05.pdf). [Reference list]

(19)Alkorbi, S. A., Almutairi, D. R., Alghabbashi, M. T., Aly, S. M. M., & Alsulami, S. A. (2022). The effect of work environment on the job performance among nurses at Makkah City, Saudi Arabia. *International Journal of Health Sciences*, 6(S6), 4889–4921.

(20)R. Falatah and E. Conway, “Linking relational coordination to nurses’ job satisfaction, affective commitment and turnover intention in Saudi Arabia,” *Journal of Nursing Management*, vol. 27, no. 4, pp. 715–721, 2019

(21)A. Haddad and M. S. Dagamseh, “Nurses intent to leave and job satisfaction in hematology/oncology areas: Implications for policy and practice,” *Journal of Nursing & Care*, vol. 5, p. 363, 2016.

(22) H. Al-Ahmadi, “Anticipated nurses’ turnover in public hospitals in Saudi Arabia,” *International Journal of Human Resource Management*, vol. 25, no. 3, pp. 412–433, 2014.

(23)F. S. Alenazy, Z. Dettrick, and S. Keogh, “The relationship between practice environment, job satisfaction and intention Nursing Forum 15 nuf, 2024, 1, Downloaded from <https://onlinelibrary.wiley.com/doi/10.1155/2024/4987339> by Egyptian National Sti. Network (Enstinet), Wiley Online Library on [09/11/2024].

(24)Z. Ambani, A. Kutney-Lee, and E. T. Lake, “The nursing practice environment and nurse job outcomes: A path analysis of survey data,” *Journal of Clinical Nursing*, vol. 29, no. 13-14, pp. 2602–2614, 2020.

(25)R. F. Abualrub and M. G. Alghamdi, “The impact of leadership styles on nurses’ satisfaction and intention to stay among Saudi nurses,” *Journal of Nursing Management*, vol. 20, no. 5, pp. 668–678, 2012.

(26)R. Falatah, J. Almuqati, H. Almuqati, and K. Altunbakti, “Linking nurses’ job security to job satisfaction and turnover intention during reform and privatization: A cross-sectional survey,” *Journal of Nursing Management*, vol. 29, no. 6, pp. 1578–1586, 2021.

(27)R. F. Abualrub and M. G. Alghamdi, “The impact of leadership styles on nurses’ satisfaction and intention to stay among Saudi nurses,” *Journal of Nursing Management*, vol. 20, no. 5, pp. 668–678, 2012

(28)A. A. Alharbi, V. S. Dahinten, and M. MacPhee, “The relationships between nurses’ work environments and emotional exhaustion, job satisfaction, and intent to leave among nurses in Saudi Arabia,” *Journal of Advanced Nursing*, vol. 76, no. 11, pp. 3026–3038, 2020.

(29)R. A. Siraj, A. E. Alhaykan, A. M. Alrajeh et al., “Burnout, resilience, supervisory support, and quitting intention among healthcare professionals in Saudi Arabia: A national cross-sectional survey,” *International Journal of Environmental Research and Public Health*, vol. 20, no. 3, p. 2407, 2023. [

(30)A. G. Alshareef, D. Wraith, K. Dingle, and J. Mays, “Identifying the factors influencing Saudi Arabian nurses’ turnover,” *Journal of Nursing Management*, vol. 28, no. 5, pp. 1030–1040, 2020.

(31)W. A. Suliman, “Leadership styles of nurse managers in a multinational environment,” *Nursing Administration Quarterly*, vol. 33, no. 4, pp. 301–309, 2009

(32)M. J. Almalki, G. Fitzgerald, and M. Clark, “The relationship between quality of work life and turnover intention of primary health care nurses in Saudi Arabia,” *BMC Health Services Research*, vol. 12, no. 1, pp. 314–411, 2012.

(33)N. A. Alonazi and M. A. Omar, “Factors affecting the retention of nurses,” *Saudi Medical Journal*, vol. 34, no. 3, pp. 288–294, 2013.

(34)A. A. Zaghloul, M. F. Al-Hussaini, and N. K. Al-Bassam, “Intention to stay and nurses’ satisfaction dimensions,” *Journal of Multidisciplinary Healthcare*, pp. 51–58, 2008.

(35)A. M. Alsufyani, K. E. Almalki, Y. M. Alsufyani et al., “Impact of work environment perceptions and communication satisfaction on the intention to quit: An empirical analysis of nurses in Saudi Arabia,” *PeerJ*, vol. 9, Article ID e10949, 2021.

(36)E. H. Al Muharraq, O. G. Baker, and S. M. Alallah, “The prevalence and the relationship of workplace bullying and nurses turnover intentions: A cross sectional study,” *SAGE Open Nursing*, vol. 8, Article ID 237796082210746, 2022.

(37) Bae S.-H., Comprehensive assessment of factors contributing to the actual turnover of newly licensed registered nurses working in acute care hospitals: a systematic review, *BMC Nursing*. (2023) 22, no. 1, 31–19, <https://doi.org/10.1186/s12912-023-01190-3>.

(38) Al Yahyaei A., Hewison A., Efstathiou N., and Carrick-Sen D., Nurses' intention to stay in the work environment in acute healthcare: A systematic review, *Journal of Research in Nursing*. (2022) 27, no. 4, 374–397, <https://doi.org/10.1177/17449871221080731>.

(39) Alsadaan N., Jones L. K., Kimpton A., and DaCosta C., Challenges facing the nursing profession in Saudi Arabia: an integrative review, *Nursing Reports*. (2021) 11, no. 2, 395–403, <https://doi.org/10.3390/nursrep11020038>.

(40) Falatah R. and Salem O. A., Nurse turnover in the Kingdom of Saudi Arabia: an integrative review, *Journal of Nursing Management*. (2018) 26, no. 6, 630–638, <https://doi.org/10.1111/jonm.12603>, 2-s2.0-85044930373.

(41) Butler R. J. and Johnson W. G., The determinants of nursing turnover: a multi-year analysis, *Medical Research Archives*. (2020) 8, no. 6, <https://doi.org/10.18103/mra.v8i6.2144>.

(42) Woodward K. F. and Willgerodt M., A systematic review of registered nurse turnover and retention in the United States, *Nursing Outlook*. (2022) 70, no. 4, 664–678, <https://doi.org/10.1016/j.outlook.2022.04.005>

(43) de Vries N., Boone A., Godderis L., Bouman J., Szemik S., Matranga D., and de Winter P., The race to retain healthcare workers: a systematic review on factors that impact retention of nurses and physicians in hospitals, *Inquiry: The Journal of Health Care Organization, Provision, and Financing*. (2023) 60, <https://doi.org/10.1177/00469580231159318>, 00469580231159318

(44) Abualrub R. F. and Alghamdi M. G., The impact of leadership styles on nurses' satisfaction and intention to stay among Saudi nurses, *Journal of Nursing Management*. (2012) 20, no. 5, 668–678, <https://doi.org/10.1111/j.1365-2834.2011.01320.x>, 2-s2.0-84864322200.

(45) Nei D., Snyder L. A., and Litwiller B. J., Promoting retention of nurses, *Health Care Management Review*. (2015) 40, no. 3, 237–253, <https://doi.org/10.1097/hmr.0000000000000025>, 2-s2.0-84941880490.

(46) Alsadaan N., Jones L. K., Kimpton A., and DaCosta C., Challenges facing the nursing profession in Saudi Arabia: an integrative review, *Nursing Reports*. (2021) 11, no. 2, 395–403, <https://doi.org/10.3390/nursrep11020038>.

(47) Halter M., Boiko O., Pelone F., Beighton C., Harris R., Gale J., Gourlay S., and Drennan V., The determinants and consequences of adult nursing staff turnover: a systematic review of systematic reviews, *BMC Health Services Research*. (2017) 17, no. 1, 824–920, <https://doi.org/10.1186/s12913-017-2707-0>, 2-s2.0-85038127781.

(48) Alzoubi, M.M., Al-Mugheed, K., Oweidat, I. et al. Moderating role of relationships between workloads, job burnout, turnover intention, and healthcare quality among nurses. *BMC Psychol* 12, 495 (2024). <https://doi.org/10.1186/s40359-024-01891-7>

(49) Kaddourah, B., Abu-Shaheen, A.K. & Al-Tannir, M. Quality of nursing work life and turnover intention among nurses of tertiary care hospitals in Riyadh: a cross-sectional survey. *BMC Nurs* 17, 43 (2018). <https://doi.org/10.1186/s12912-018-0312-0>

(50) Sullivan, V., Hughes, V., & Wilson, D. R. (2022). Nursing burnout and its impact on health. *Nursing Clinics*, 57(1), 153-169.

(51) Vallone, F., Zurlo, M.C. Stress, interpersonal and inter-role conflicts, and psychological health conditions among nurses: vicious and virtuous circles within and beyond the wards. *BMC Psychol* 12, 197 (2024). <https://doi.org/10.1186/s40359-024-01676-y>

(52) Alluhaybi, A., Usher, K., Durkin, J., & Wilson, A. (2024). Clinical nurse managers' leadership styles and staff nurses' work engagement in Saudi Arabia: A cross-sectional study. *Plos one*, 19(3), e0296082.