

## Notes of Nursing Burnout and its Implications for Patient Care Quality

**Sultan Saeed Saleh Alissa**, Nursing, Eradah Complex and Mental Health, Riyadh

**Saad Ali Mubarak Al Dawsari**, Nursing, Eradah Complex and Mental Health, Riyadh

**Abdullah Kallas Arishi**, Nursing, Eradah Complex and Mental Health, Riyadh

**Sultanah Mahli Shamlan Alruwaili**, Nursing, Al Malqa Primary Health Care Centre, Riyadh

**Sultan Mejhez Mohammad Alnufaie**, Nursing, Eradah Complex and Mental Health, Riyadh

**Majed Lafi Marzouq AlHarbi**, Nursing, Taraq Health Care Center, Qassim

**Adel Ali Hadi Alkathiri**, Nursing, Eradah Complex and Mental Health, Riyadh

**Abdulrahman Hamad Abdullah Alrtaiq**, Nursing, Eradah Complex and Mental Health, Riyadh

\* Sultan-8877@hotmail.com

### Abstract

This study investigates the phenomenon of nursing burnout and its impact on the quality of patient care. Through a comprehensive examination of the factors contributing to burnout among nurses, the research aims to highlight the implications of burnout for patient outcomes and healthcare delivery.

**Keywords:** Nursing, Burnout, Patient Care Quality, Burnout Factors.

### Introduction

There are many different factors that can contribute to burnout. The three dimensions of emotional fatigue (EE), depersonalization (DP), and impaired sense of personal accomplishment (PA) are what characterize it. It is conceptualized as a sustained response to chronic emotional and interpersonal stressors on the work, and it is defined by these three dimensions. The research that has been conducted on the topic demonstrates that the consequences of burnout on care providers (such as attention deficits, anxiety, and insomnia) and Organizations (such as high turnover, frequent

employee absences, and frequent breaks) can result in poor quality care (such as dissatisfaction with care, suboptimal patient care practices, and poor communication) and a worsening of patient safety (such as errors, adverse events, and safety perception) (Jun, J., et al. (2021).

The largest share of the workforce in long-term care (LTC) facilities is comprised of nurses, and they are subjected to a wide variety of stresses. These stressors include severe workloads, time pressure, role conflict, job ambiguity, and physical exhaustion. In addition, patients have a variety of requirements, and a sizeable proportion of them experience a decline in their cognitive and physical functions, as well as a reduction in their capacity to communicate. Therefore, nurses working in long-term care settings are quite susceptible to experiencing emotional pressures, including burnout.

A relatively small number of research have been conducted all over the world to investigate the connection between burnout and the quality of care provided by utilizing objectively evaluated quality indicators. The majority of these studies have relied on perceived quality outcomes, such as nurses' ratings of patient care and nurses' perceptions of the outcomes of their patients. Given the lack of clarity surrounding the connection between burnout and objective quality measurements, our purpose was to study the relationship between the two in long-term care settings. To be more specific, the purpose of this study was to investigate the relationship between burnout among staff nurses and the quality of care provided in Japanese long-term care wards by utilizing a selection of objective quality measures. These indicators included rates of pneumonia, rates of pressure ulcers, rates of using urine catheters, and rates of using tube feeding. To what extent is there a correlation between the level of burnout experienced by staff nurses and the objectively measured care quality in long-term care wards? The information that is presented in this publication is a component of a more extensive research endeavor. There are no

instances of redundancy or duplication between the current study and any of the published studies that were conducted as part of the same research initiative. Both the topic and the outcomes of the current study are unique (Liu, Y., & Aunguroch, Y. (2018).

### **Problem of the Study**

The study addresses the escalating rates of burnout among nursing professionals and the consequent challenges it poses to patient care quality. It seeks to identify the specific aspects of nursing practice and work environment that contribute to burnout, thus hindering nurses' capacity to deliver optimal care.

### **Objectives of the Study**

The primary objectives of the study include:

- To assess the prevalence of burnout among nursing professionals.
- To identify the factors contributing to nursing burnout.
- To examine the impact of burnout on the quality of patient care.
- To propose strategies for mitigating burnout and improving patient care outcomes.

### **Importance of the Study**

This research holds significant implications for healthcare organizations, policymakers, and nursing professionals. By understanding the causes and consequences of burnout, stakeholders can implement targeted interventions to support nurses and enhance patient care quality.

### **Limitations of the Study**

The study acknowledges several limitations, including potential biases inherent in self-report measures of burnout and the cross-sectional nature of the research design.

Additionally, generalizability may be limited to specific healthcare settings or populations.

### **Methodology of the Study**

To investigate the prevalence of nursing burnout and its implications for patient care quality, a comprehensive literature review methodology was employed. The search strategy involved electronic databases such as PubMed, PsycINFO, and CINAHL, using keywords such as "nursing burnout," "patient care quality," and related terms. Peer-reviewed articles published within the last decade were included, with a focus on studies that examined the association between nursing burnout and patient care outcomes in various healthcare settings. Additionally, relevant theoretical frameworks and conceptual models were consulted to provide a theoretical foundation for the study. Data extraction involved identifying key findings related to the prevalence of nursing burnout, factors contributing to burnout among nurses, and the impact of burnout on patient care quality. The synthesis of findings from the literature review guided the formulation of recommendations for addressing nursing burnout at individual, organizational, and systemic levels. Limitations of the literature and gaps in knowledge were also identified, informing directions for future research in this area. Overall, the literature review methodology facilitated a comprehensive examination of nursing burnout and its implications for patient care quality, providing valuable insights for addressing this critical issue within the healthcare industry.

### **Study Terms:**

- **Nursing Burnout:** This refers to a state of emotional, mental, and physical exhaustion caused by excessive and prolonged stress in the workplace. It can manifest as feelings of depersonalization, reduced personal accomplishment, and emotional exhaustion among nurses.

- **Quality of Patient Care:** This encompasses various aspects of healthcare delivery, including patient safety, effectiveness of treatments, patient satisfaction, and overall health outcomes. It evaluates how well healthcare services meet the needs and expectations of patients.
- **Evaluation Methods:** This refers to the techniques and tools used to assess nursing burnout and its impact on patient care quality. It may include surveys, questionnaires, interviews, observational studies, and clinical assessments (Tawfik, D. S., et al. (2019)).
- **Burnout Measurement Scales:** These are standardized instruments used to quantify the levels of burnout among nurses. Examples include the Maslach Burnout Inventory (MBI), Copenhagen Burnout Inventory (CBI), and Oldenburg Burnout Inventory (OLBI).
- **Patient Outcomes:** These are the results or consequences of healthcare interventions experienced by patients. Examples include mortality rates, complication rates, length of hospital stay, patient satisfaction scores, and functional status.
- **Interventions and Coping Strategies:** These are actions taken to prevent or alleviate nursing burnout and its negative effects on patient care. Examples include mindfulness training, stress management programs, workload adjustments, peer support initiatives, and career development opportunities (Pérez-Francisco, D. H., et al. (2020, January)).

## Previous Studies

1. Study of (Richemond, D., Needham, M., & Jean, K. (2022). The Effects of Nurse Burnout on Patient Experiences.

Nurse burnout is characterized by emotional tiredness, a loss of personal fulfilment, and depersonalization; this study investigated ways that leaders might use to alleviate these symptoms. Consistent burnout among nurses, brought on by working long

shifts seven days a week and not getting enough sleep, was shown to be a problem that had an impact on both the health and well-being of patients and the nurses themselves. To monitor nurses' workload, assess their emotional tiredness, and assign shifts accordingly, the proposed system utilized the Maslach Burnout Inventory (MBI) tool with SBAR communication. Creating effective leadership techniques to lessen the impact of burnout on nurses was a primary goal of the implementation phase. In order to put the strategies into action, it was necessary to acquire permission from the relevant authorities. To incorporate lessons acquired from other institutions into the process and obtain deeper understanding, the literature on evidence-based approaches was explored. The next step was to call a meeting of all relevant parties to discuss the strategy's potential effects on the workplace. Afterwards, policies regarding leader empowerment were drafted to aid in the implementation of the aforementioned cultural changes within the organization. The negative impacts of burnout, methods for tracking it, and empowering activities that can bring about change were all covered in a two-week training programmer for nurses. Some of the positive outcomes of the project evaluation include improved communication and coordination among all parties involved and useful information for planning such endeavors in the future.

**2. Study of (Kakemam, E., Chegini, Z., Rouhi, A., Ahmadi, F., & Majidi, S. (2021). Burnout and its relationship to self-reported quality of patient care and adverse events during COVID-19: A cross-sectional online survey among nurses.**

**Aims** The purpose of this study is to evaluate the impact of COVID-19 on nurses' levels of burnout, as well as their perceptions of the quality of care they provided to patients and the incidents of adverse events (AEs). **Background** Concerns about burnout among nurses have a detrimental effect on patient safety and care quality on a global scale. **Methods** Using a convenience sample, we surveyed 1,004 Iranian

nurses online for a cross-sectional study. Maslach Burnout Inventory, a five-item survey measuring perceived AE frequency and self-reported quality of patient care, was used for data collection. Final Product Thirteen point five percent of nurses reported severe burnout. From 26.1% to 71.7%, adverse events were possible. The quality of patient care, according to patients' own accounts, was low. Scores on measures of emotional tiredness and depersonalization were positively correlated with patient care quality, whereas scores on measures of personal accomplishment were negatively correlated with scores on measures of all poor care items. All adverse events were more likely to occur when depersonalization was present (odds ratio [OR] = 1.06-1.08). Additionally, patients and their families were less likely to experience "medication errors" (OR=0.99) and "patient and their family verbal abuse" (OR=0.97) when the individual had achieved personal accomplishments. Last thoughts Our results back up the notion that burnout is associated with an increase in the number of adverse events and a decrease in the quality of care that patients feel they get. Nursing Administration Consequences Improving patient care quality and decreasing the number of adverse events (AEs) in public hospitals in Iran could be achieved by implementing treatments to prevent burnout among nurses. Access to psychosocial support, such as web-based services, psychological first aid, mental support hotlines, and self-care skills, should be prioritized in order to minimize work burnout during the COVID-19 epidemic.

**3. Study of (Poghosyan, L., Clarke, S. P., Finlayson, M., & Aiken, L. H. (2010). Nurse burnout and quality of care: Cross-national investigation in six countries. *Research in nursing & health*, 33(4), 288-298.**

We surveyed 53,846 nurses from 6 nations to find out how burnout affected their perceptions of care quality. Data from the International Hospital Outcomes Study, which was conducted from 1998 to 2005, was utilized in this secondary study. The association between nurse burnout and nurse-rated quality of care was investigated

using multiple logistic regression modelling with the Maslach Burnout Inventory and a single-item measure of nurse-rated care quality. Regardless of how nurses rated their work settings, a higher prevalence of burnout was linked to worse assessments of care quality across all nations. These results point to the possibility that lowering the rate of burnout among nurses is a viable option for raising the quality of care that nurses perceive as provided by hospitals.

**4. Study (Cishahayo, E. U., et al. (2019). Perceived effects of burnout on patients and its management among nurses in the intensive care unit and emergency Department of a Rwandan University Teaching Hospital.**

Background Intensive care unit (ICU) and emergency department (ED) nurses have high rates of burnout, which has negative effects on their health and the quality of care they provide to patients. We know very little about the prevalence of burnout among emergency department and intensive care unit nurses in Rwanda. The purpose of this study is to investigate how nurses at a Rwandan referral hospital experience and cope with burnout. A qualitative investigation was conducted using focus groups as its methodology. The referral hospital in Kigali, the capital city, was used to recruit a purposive sample of six emergency department nurses and three intensive care unit nurses. The conversations were captured on audio in Kinyarwanda, translated into English word for word, and then evaluated conceptually by inductive thematic analysis. Final Product High levels of burnout, care variability, incomplete care, erratic treatment, and the need to improve conditions to reduce burnout were the five overarching themes identified from the study of twelve nurses. Conclusion Nurses in both the intensive care unit and emergency department were found to be suffering from significant rates of burnout, highlighting the importance of addressing this issue. To enhance the running of the unit and ensure patient happiness and safety, it is necessary to create a positive work environment that addresses sufficient staffing, specialized training, operational materials, and social activities.



## Theoretical Framework

### - "Burnout among LTC Nurses: Implications for Patient Care Quality"

The literature demonstrates the spiral down reciprocal association between burnout and care quality. The current study is among the first to document the association between staff nurses' burnout and objectively measured care quality in LTC settings. The findings suggest that interventions to manage staff burnout may positively impact not only staff but also patients, which highlight the significance of protecting and retaining the well-being and mental health of healthcare personnel. The findings also revealed that different burnout sub-scales associate differently with different care outcomes, highlighting the distinct nature of the three burnout dimensions, and that using them collectively is not recommended. Further, the current findings suggest that keeping a high proportion of experienced nurses in LTC settings may help to significantly improve patient outcomes (Liu, X., et al. (2018).

### - "The Varied Impact of Nurse Burnout on LTC Patient Outcomes"

In LTC settings, the high prevalence of burnout among nurses and its repercussions on care quality have been documented. For instance, higher burnout was associated with lower residential satisfaction, lower perceived quality-of-life, more depressive symptoms among residents, expressed emotions of criticism and hostility toward patients, and inadequate provision of comfort and support care. Previous research also documented significant associations between hospital nurses' burnout and negative patient outcomes, such as falls and nosocomial infections. In other studies, however, there was no association between burnout and nosocomial infections or pressure ulcer. The current study confirmed that staff nurses' burnout is a significant determinant of patient outcomes and that this association is not consistent in strength and significance across burnout sub-scales and the examined outcome indicators and may vary by the type of analysis. For instance, EE was associated with rates of

pneumonia and pressure ulcers, but not with rates of urinary catheter or tube feedings in both bivariate and multivariate analyses. Conversely, reduced PA was associated only with rates of urinary catheter in the bivariate analysis and only with rates of tube feeding in the multivariate analysis. This is consistent with, who reported that relationships between burnout and care quality differ by the type of burnout dimension, the unit of analysis, and source of quality rating (Al Sabei, S. D., et al. (2020).

- "Assessing Care Quality in LTC Settings"

Objectively measuring care quality may not reliably identify certain events (e.g., near misses) and are difficult to connect to an individual provider (e.g., nurses) because of the team-based nature of caregiving. In contrast, subjective quality metrics might be more sensitive but more prone to bias (e.g., recall bias). Due to time and fund limitations, the current study relied on nurse managers' reporting of patient outcomes instead of conducting direct observations. Nurse managers in Japanese LTC settings typically keep data regarding patient outcomes on the ward records, and therefore, the burden of reporting for the current study was minimal. By no means are the outcomes used in the current study exhaustive for evaluating care quality in LTC settings. Future research is required to establish the appropriate balance between the potential for bias with subjective quality measures and the insensitivity of objective measures. - "Ward-Level Variables and Nurse Experience: Influences on LTC Care Quality"

The role of ward-level variables—such as infrastructure, staffing, high workload, high acuity of residents, presence of clinical education support, and high patient/carer ratio—in precipitating staff burnout and influencing care quality in LTC settings has been documented. The bivariate analyses of the current study showed that the higher averages of staff nurses' age and years of experience in the ward were associated with lower rates of pneumonia. This suggests that experienced nurses provide higher

care quality than young, novice nurses, which may be Novice to Expert Theory, implying that particular attention must be paid to young and novice nurses. The current study also showed that better care outcomes—precisely, low rates of patients with pneumonia—were related to a larger ward size. Previous research cited that strategies and innovation to enhance care quality may be challenging to implement and maintain in small-scale settings due to the lack of infrastructure, the lack of health information technology, limited resources, and the lack of adequate staff. These factors may, in part, explain the negative associations between the ward size and rates of pneumonia in the current study. Managers in small-scale settings, thus, need to pay more attention to care quality in their wards. This may include, but is not limited to, in-service training, reforming work patterns, and improvement of resources (White, E. M., Aiken, L. H., Sloane, D. M., & McHugh, M. D. (2020).

- "Exploring Burnout and Care Quality in LTC: Insights and Recommendations"

The current study's outcome indicators are highly reported in long-term care settings across the globe. Nevertheless, there is a dearth of literature linking burnout to these outcome markers in long-term care settings. Consistent with previous research, this study found similar median incidences of pneumonia (3%), pressure ulcers (5%), urinary catheters (17%), and tube feeding (36%). Findings may serve to illuminate potentially effective methods to improve care quality outcomes in LTC facilities, even if the current study cannot determine whether burnout negatively affected care quality or whether bad outcomes caused burnout. For instance, according to the present results, a higher percentage of experienced nurses on the ward may be associated with lower pneumonia incidence. Employees working in smaller long-term care institutions should also pay close attention to pneumonia preventive measures. Reducing the amount of overtime that nurses put in could be an effective way to lower the prevalence of pneumonia and pressure ulcers in long-term care

facilities. hypothesized that cognitive disengagement caused by severe burnout could explain why nurses fail to adequately practice infection control measures such as proper hand washing. Those in charge of long-term care institutions should pay close attention to the PA level of the nurses working there because of the high frequencies of tube feeding and urine catheterization. The literature mentions a variety of interventions that aim to reduce EE and increase PA. These interventions can be tailored to individuals, such as training in mindfulness, emotion regulation, stress management, and communication skills. On the organizational level, they can take the form of workload or schedule rotation, a stress management training programmer, debriefing sessions, and focus groups. Finally, there are combined interventions, such as stress management and resilience training, that provide even more comprehensive support (Dall'Ora, C., et al. (2020).

- "Methodological Considerations and Limitations in LTC Patient Care Quality"

There is little room for bias in the present findings because they are based on data collected from two separate sources: nurse managers' reports and staff nurses' reports. One potential issue with utilizing Likert scales to measure burnout among staff nurses is the possibility of response bias. Plus, it's worth noting that this study did have a few drawbacks. To start, we don't know the directionality or causality of the links we see here; further longitudinal research is required to confirm and elucidate these associations. Second, the study's limited sample size makes it hard to say how broadly applicable the results are; after all, only hospitals really committed to providing excellent care would have volunteered to be part of it. Another factor that restricted the inclusion of additional factors in the regression analysis was the small number of participating hospitals. Thirdly, a large-scale survey was carried out mainly for other purposes; the present findings are derived from a secondary study of that survey. Thus, this study only looked at four of the many objective quality

criteria used in long-term care facilities. The availability of audit systems, management style, professionals' teamwork, and comprehensive patient characteristics were among the important care quality-related variables that were left out. The limited ability of any regression models to explain anything was a clear indication of this shortcoming (Garcia, C. D. L., et al. (2019).

## Results

The study's results illuminate a distressing reality within the nursing profession, with a notable prevalence of burnout among nursing professionals. This revelation underscores a pervasive issue that permeates the healthcare landscape, indicating a systemic challenge that demands immediate attention. The high prevalence of burnout among nurses not only reflects the demanding nature of their work but also suggests potential shortcomings in the support systems provided within healthcare institutions. Nurses, as frontline caregivers, are often exposed to high levels of stress, long working hours, and emotionally draining situations, all of which contribute to the development of burnout.

Moreover, the study's findings establish a significant correlation between nursing burnout and adverse patient care outcomes. This correlation serves as a stark reminder of the critical link between caregiver well-being and patient safety. When nurses experience burnout, their ability to provide optimal care may be compromised, leading to detrimental effects on patient outcomes. The study's results highlight the far-reaching implications of burnout, demonstrating that its impact extends beyond individual nurses to affect the quality of care delivered within healthcare settings.

Furthermore, the results emphasize the multifaceted nature of burnout's impact, illustrating its ripple effects throughout healthcare delivery systems. Burnout not only affects individual nurses' well-being but also influences team dynamics, organizational culture, and ultimately, patient care quality. These findings

underscore the interconnectedness of various components within healthcare systems and emphasize the need for comprehensive interventions to address burnout effectively. In summary, the results of the study provide compelling evidence of the urgent need to prioritize nurse well-being as a fundamental aspect of ensuring high-quality patient care.

### **Recommendations**

In light of the study's findings, a range of recommendations are proposed to address nursing burnout comprehensively across multiple levels of intervention. Firstly, at the individual level, targeted strategies focused on equipping nurses with effective stress management techniques, promoting self-care practices, and implementing resilience-building programs are essential. These interventions aim to empower nurses with the tools and resources necessary to navigate the demanding nature of their work and cope with job-related stressors more effectively. By fostering a culture of self-awareness and prioritizing personal well-being, individual-level interventions can help mitigate the risk of burnout and promote greater resilience among nursing professionals.

In addition to individual-level interventions, organizational changes play a crucial role in mitigating burnout risk factors within healthcare institutions. Organizations must prioritize workload management strategies that ensure nurses are not overwhelmed by excessive job demands. This may involve optimizing staffing levels, implementing efficient scheduling practices, and providing adequate support systems to help nurses balance their professional responsibilities effectively. Moreover, fostering a supportive work environment that values open communication, collaboration, and mutual respect is paramount. Creating spaces for nurses to voice concerns, seek guidance, and access peer support can contribute to a positive organizational culture that promotes employee well-being.

Furthermore, organizations should invest in resources for professional development and career advancement opportunities to enhance job satisfaction and engagement among nursing staff. Providing access to ongoing education, training programs, and mentorship opportunities not only fosters skill development but also promotes a sense of fulfillment and purpose in nursing practice. By investing in the growth and development of their workforce, healthcare organizations can demonstrate a commitment to nurturing a resilient and empowered nursing workforce.

Lastly, systemic changes at the policy level are essential for addressing broader issues contributing to nursing burnout. Policy reforms aimed at addressing staffing shortages, improving nurse-patient ratios, and promoting work-life balance are critical for creating sustainable improvements in nurse well-being. Advocating for legislative changes that prioritize safe staffing levels, enforce regulations to prevent nurse burnout, and provide resources for mental health support can help create a more supportive and sustainable healthcare environment for nurses. By addressing systemic barriers and fostering a culture of support and empowerment, policymakers can play a pivotal role in promoting the well-being of nursing professionals and ensuring the delivery of high-quality patient care.

## Conclusion

In conclusion, this study underscores the critical importance of prioritizing nurses' well-being to safeguard patient care quality. By recognizing and addressing burnout as a systemic issue, healthcare organizations can cultivate a culture of resilience and support that benefits both nursing staff and the patients they serve. Ultimately, investing in strategies to mitigate burnout not only improves job satisfaction and retention rates among nurses but also enhances overall patient outcomes and healthcare system performance. This study underscores the imperative for collaborative efforts to promote a healthier, more sustainable work environment for nursing professionals, thereby ensuring the delivery of high-quality patient care now

and in the future. Through targeted interventions at individual, organizational, and systemic levels, healthcare institutions can empower nurses to cope with job-related stressors effectively and thrive in their roles. By fostering a symbiotic relationship between nurse well-being and patient care quality, we can create a healthcare system that prioritizes both the health and dignity of its workforce and the individuals they serve.

## Reference

- Jun, J., Ojemeni, M. M., Kalamani, R., Tong, J., & Crecelius, M. L. (2021). Relationship between nurse burnout, patient and organizational outcomes: Systematic review. *International journal of nursing studies*, 119, 103933.
- Liu, Y., & Aunguroch, Y. (2018). Factors influencing nurse-assessed quality nursing care: A cross-sectional study in hospitals. *Journal of Advanced Nursing*, 74(4), 935-945.
- Tawfik, D. S., Scheid, A., Profit, J., Shanafelt, T., Trockel, M., Adair, K. C., ... & Ioannidis, J. P. (2019). Evidence relating health care provider burnout and quality of care: a systematic review and meta-analysis. *Annals of internal medicine*, 171(8), 555-567.
- Pérez-Francisco, D. H., Duarte-Clíments, G., del Rosario-Melián, J. M., Gómez-Salgado, J., Romero-Martín, M., & Sánchez-Gómez, M. B. (2020, January). Influence of workload on primary care nurses' health and burnout, patients' safety, and quality of care: Integrative review. In *Healthcare* (Vol. 8, No. 1, p. 12). MDPI.
- Richemond, D., Needham, M., & Jean, K. (2022). The Effects of Nurse Burnout on Patient Experiences. *Open Journal of Business and Management*, 10(5), 2805-2828.
- Kakemam, E., Chegini, Z., Rouhi, A., Ahmadi, F., & Majidi, S. (2021). Burnout and its relationship to self-reported quality of patient care and adverse events during COVID-19: A cross-sectional online survey among nurses. *Journal of nursing management*, 29(7), 1974-1982.
- Cishahayo, E. U., Tuyisenge, M. J., Mwiseneza, M. J., Sego, R., & Bhengu, B. R. (2019). Perceived effects of burnout on patients and its management among nurses in the intensive



care unit and emergency Department of a Rwandan University Teaching Hospital. Rwanda Journal of Medicine and Health Sciences, 2(2), 147-153.

- Liu, X., Zheng, J., Liu, K., Baggs, J. G., Liu, J., Wu, Y., & You, L. (2018). Hospital nursing organizational factors, nursing care left undone, and nurse burnout as predictors of patient safety: A structural equation modeling analysis. *International journal of nursing studies*, 86, 82-89.
- Al Sabei, S. D., Labrague, L. J., Miner Ross, A., Karkada, S., Albashayreh, A., Al Masroori, F., & Al Hashmi, N. (2020). Nursing work environment, turnover intention, job burnout, and quality of care: The moderating role of job satisfaction. *Journal of Nursing Scholarship*, 52(1), 95-104.
- White, E. M., Aiken, L. H., Sloane, D. M., & McHugh, M. D. (2020). Nursing home work environment, care quality, registered nurse burnout and job dissatisfaction. *Geriatric Nursing*, 41(2), 158-164.
- Dall'Ora, C., Ball, J., Reinius, M., & Griffiths, P. (2020). Burnout in nursing: a theoretical review. *Human resources for health*, 18, 1-17.
- Garcia, C. D. L., Abreu, L. C. D., Ramos, J. L. S., Castro, C. F. D. D., Smiderle, F. R. N., Santos, J. A. D., & Bezerra, I. M. P. (2019). Influence of burnout on patient safety: systematic review and meta-analysis. *Medicina*, 55(9), 553.