



Resilience and Well-being Among Nurses: Strategies for Support and Self-care

Ali bin Hamad bin Ali Al-Hubaishi

Salem bin Hamad bin Ali Al Hubaishi

Hani bin Muhammad bin Ahmed Al-Qahtani

Abstract

This research explores the strategies implemented by healthcare organizations to support nurses' well-being in the face of the challenges they encounter in their work environment. Recognizing the importance of promoting resilience and self-care among nursing staff, initiatives such as stress management programs, mental health resources, peer support groups, wellness activities, work-life balance initiatives, and training and education opportunities have been introduced. By equipping nurses with the tools and resources they need to prioritize their well-being, healthcare organizations aim to create a supportive work environment that fosters resilience, job satisfaction, and high-quality patient care. This research highlights the significance of supporting nurses' well-being and emphasizes the positive impact these strategies can have on both nurses and the quality of care they provide.

Keywords: Nurses, well-being, healthcare organizations, resilience, self-care, stress management, mental health resources, peer support groups, wellness activities, work-life balance, training, education, job satisfaction, patient care



Nurses are the backbone of healthcare systems worldwide, providing essential care and support to patients in various settings. The nursing profession is known for its demanding nature, requiring nurses to navigate complex healthcare environments, make critical decisions, and engage in emotionally taxing interactions with patients and their families. While nurses are dedicated to their work and the well-being of their patients, they often face significant challenges that can impact their own mental and physical health.

One of the key challenges faced by nurses is the high levels of stress and burnout prevalent in the profession. Research has consistently shown that nurses experience higher rates of burnout compared to other healthcare professionals, with factors such as heavy workloads, long hours, lack of resources, and exposure to suffering contributing to their stress levels. Burnout is a state of emotional, physical, and mental exhaustion caused by prolonged exposure to work-related stressors, and it can have serious implications for nurses' well-being and the quality of care they provide.

In addition to burnout, nurses also face challenges such as compassion fatigue, moral distress, and secondary traumatic stress, all of which can impact their ability to cope with the demands of their work. Compassion fatigue, in particular, occurs when nurses become emotionally exhausted from caring for patients who are suffering or in distress, leading to a decreased ability to empathize and connect with others. Moral distress arises when nurses are unable to act in accordance with their ethical values due to institutional constraints or conflicting priorities, causing psychological distress and moral injury.

Recognizing the impact of these challenges on nurses' well-being and job satisfaction, there has been a growing emphasis on the importance of supporting nurses' resilience and promoting self-care practices in the workplace. Resilience refers to the ability to adapt and bounce back from adversity, and it plays a crucial role in helping nurses cope with the stresses of their profession. By developing resilience and implementing effective self-care strategies, nurses can enhance their well-being, improve job satisfaction, and ultimately provide better care to their patients.



1.2

Research problem

SCIENTIFIC REPORTS

INTERNATIONAL

The research problem stems from the growing concern over the impact of stress and burnout on nurses' well-being and job satisfaction. Addressing this issue is crucial to ensure a resilient and healthy nursing workforce. Despite the critical role nurses play in the healthcare system, they continue to face significant challenges related to stress, burnout, and well-being. The problem of stress and burnout among nurses is multifaceted, with factors such as heavy workloads, emotional demands, lack of support, and exposure to trauma contributing to their mental and physical exhaustion. High levels of burnout not only impact nurses' own health and job satisfaction but also have implications for patient care, including increased medical errors, decreased quality of care, and higher turnover rates among nursing staff.

The issue of burnout and its consequences for both nurses and patients highlight the urgent need to address the well-being of nurses in the healthcare workforce. Research has shown that nurses experiencing burnout are more likely to report symptoms of depression, anxiety, and compassion fatigue, leading to decreased job performance and increased absenteeism. Moreover, the high levels of burnout and turnover among nurses have significant financial implications for healthcare organizations, resulting in recruitment costs, training expenses, and decreased productivity.

By exploring the factors contributing to stress and burnout among nurses, examining existing support systems and self-care practices, and evaluating the effectiveness of resilience-building interventions, this research aims to shed light on how healthcare organizations can better support their nursing staff. Addressing the problem of burnout and promoting nurses' well-being is crucial not only for the sustainability of the nursing workforce but also for the overall quality of patient care and healthcare outcomes.

Research questions

1. What are the main sources of stress and burnout among nurses?
2. What strategies can be implemented to enhance nurses' resilience and well-being?
3. How do support systems and self-care practices influence nurses' ability to cope with work-related stress?



1.3. Aim and objectives

The aim of this study is to explore effective strategies for supporting nurses' resilience and promoting their well-being in the workplace. The objectives include:

- Identifying the factors contributing to stress and burnout among nurses.
- Examining existing support systems and self-care practices in nursing.
- Evaluating the impact of resilience-building interventions on nurses' well-being and job satisfaction.

1.4. Research significance

The significance of this research lies in its potential to drive positive change in the healthcare industry by addressing the critical issue of nurses' well-being and resilience. By delving into the factors that contribute to stress and burnout among nurses, exploring effective support systems and self-care practices, and evaluating resilience-building interventions, this study offers valuable insights that can inform healthcare organizations, policymakers, and nurse leaders on strategies to promote nurses' mental health and job satisfaction.

One key aspect of the research significance is its potential to influence organizational policies and practices in healthcare settings. By identifying the main sources of stress and burnout in nursing and evaluating the impact of resilience-building interventions, this research can provide evidence-based recommendations for creating supportive work environments that prioritize nurses' well-being. Healthcare organizations can use these insights to implement targeted interventions, such as stress management programs, mental health resources, and self-care initiatives, to support their nursing staff and foster a culture of resilience.

Furthermore, the findings from this study can have broader implications for the nursing profession as a whole. By highlighting the importance of promoting nurses' well-being and resilience, this research can contribute to a shift in how nurses are supported and valued within the healthcare system. By investing in nurses' mental health and job



satisfaction, healthcare organizations can improve retention rates, reduce turnover costs, and ultimately enhance the quality of patient care.

Overall, this research has the potential to make a meaningful impact on the well-being of nurses, the quality of healthcare delivery, and the sustainability of the nursing workforce. By prioritizing nurses' mental health and resilience, healthcare organizations can create a supportive and thriving environment that benefits both nurses and the patients they care for.

FACTORS CONTRIBUTING TO NURSES' STRESS AND BURNOUT

Burnout is a condition characterized by emotional, physical, and mental exhaustion, leading to a significant decrease in personal satisfaction and a heightened sense of depersonalization in one's professional activities (Dyrbye et al., 2017). The work environment in which nurses and other healthcare professionals operate can contribute to the development of burnout. Experiencing burnout can result in the development of depression and cause avoidable distress. In their study, Kelly and Lefton (2017) discovered that burnout can be anticipated by a rise in job stress and a decline in job satisfaction and enjoyment. The high incidence of burnout is worrisome due to its potential impact on the quality, safety, and efficacy of the healthcare system (Dyrbye et al., 2017).

Numerous studies have identified various factors that contribute to nurses' stress and burnout. Heavy workloads, long hours, lack of resources, and exposure to suffering are common stressors that can lead to emotional, physical, and mental exhaustion among nurses (Sacadura-Leite et al., 2019). The emotional demands of caring for patients in pain or distress, combined with organizational factors such as inadequate staffing levels and high patient acuity, can further exacerbate nurses' stress levels (Vahedian-Azimi et al., 2019). Additionally, the hierarchical nature of healthcare settings, lack of autonomy, and limited opportunities for professional growth have been linked to increased levels of burnout among nurses (Pursio et al., 2021).

Secondary trauma or vicarious trauma refers to the situation when a healthcare provider is affected by a patient's traumatic event, causing them to experience trauma themselves. This type of trauma can manifest when nurses and other healthcare professionals set aside their own emotional and psychological needs in order to prioritize the needs of their patients. Kelly and Lefton (2017) discovered a correlation



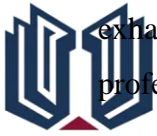
between increased job satisfaction and happiness among nurses, which resulted in a drop in stress levels. Consequently, this finding suggests that secondary trauma can be mitigated.

IMPACT OF BURNOUT ON NURSES AND PATIENT CARE

The consequences of burnout among nurses are far-reaching and can have serious implications for both nurses and patients. Research has shown that nurses experiencing burnout are more likely to report symptoms of depression, anxiety, and compassion fatigue, leading to decreased job performance and increased absenteeism (Ma et al., 2022; Yu, H. and Gui, L., 2022). Burnout has also been associated with higher turnover rates among nursing staff, resulting in recruitment costs, training expenses, and decreased productivity for healthcare organizations (Muir et al., 2022; Khamisa et al., 2015). Moreover, studies have demonstrated a link between nurse burnout and adverse patient outcomes, including increased medical errors, decreased quality of care, and higher rates of patient mortality (Jun et al., 2021; Schlak et al., 2021; West et al., 2014).

Compassion fatigue refers to an imbalance between the satisfaction derived from compassion and the quality of professional life, accompanied by emotions of hopelessness (Sullivan et al., 2019). Nurses who are suffering from compassion fatigue may display symptoms such as exhaustion and impatience, a sense of dread while going to work or entering a patient's room, a lack of enjoyment in activities outside of work, excessive consumption of alcohol or food, or worsening of pre-existing physical conditions. Individuals may undergo a recurrence of traumatic clinical events and exhibit intrusive thoughts or disruptions in sleep patterns (Gustafsson, T. and Hemberg, J., 2022; Reimer, 2013).

Nurses experience significant work-related stress due to the demanding nature of caring for patients with diseases such as cancer. Cancer is associated with high morbidity and mortality rates, as well as numerous harmful side effects. The treatment for cancer is often long-term, and patients also face personal and emotional hardships. These factors contribute to the stress experienced by nurses and other healthcare professionals (Ondrejková, N. and Halamová, J., 2022; Henry, 2014; Reimer, 2013). Nurses who provide care for cancer patients may experience profound physical and emotional



exhaustion, leading to strained relationships and a greater inclination to leave the profession (Rubab, S., 2024; Cherny et al., 2015).

Compassion fatigue can potentially exert a detrimental impact on patient outcomes (Kelly and Lefton, 2017). Common stressors that nurses may encounter include experiences of grief and loss, moral and ethical difficulties, and the impact of therapeutic trials (Khalaf et al., 2018; Missouridou, E., 2017). Both the personnel and hospitals experience the negative consequences, both in terms of finances and non-monetary aspects, of having an overburdened workforce. Ensuring a strong nursing workforce is crucial in the present advanced technology and high-intensity healthcare sector (Zhao et al., 2019).

RESILIENCE AND SELF-CARE PRACTICES

In response to the challenges faced by nurses, there has been a growing emphasis on promoting resilience and self-care practices in the nursing profession. Resilience refers to the ability to adapt and bounce back from adversity, and it plays a crucial role in helping nurses cope with the stresses of their work (Cooper et al., 2020). Research has shown that nurses with higher levels of resilience are better able to manage stress, maintain job satisfaction, and provide high-quality care to their patients (Atay et al., 2021; Cooper et al., 2021; Leng et al., 2020; Öksüz et al., 2019). In addition to resilience, self-care practices such as mindfulness, exercise, social support, and work-life balance have been identified as effective strategies for promoting nurses' well-being and preventing burnout (Dyrbye et al., 2017).

Resilience is considered a key aspect in mitigating stress in the field of oncology. Resilience can be defined as the capacity to successfully navigate and adjust to challenging circumstances by utilizing effective coping mechanisms and adapting to adversity (Cleary et al., 2018; Zander et al., 2010). Resilience encompasses not just the capacity to endure and overcome challenges, but also the capacity to experience transformative human development that fosters individual progress. It entails the capacity to adjust to a difficult circumstance regardless of adversity. Nurses must cultivate resilience in order to effectively manage the challenges that may arise in the workplace (Sisto et al., 2019; Grafton et al., 2010).

The formalization of support for nurses is frequently lacking. Nurses are often instructed that practicing self-care and using stress reduction techniques will alleviate



the effects of compassion fatigue. However, they are not provided with particular methods or tactics for self-care. Strategies may be hindered due to insufficient practice or support. Implementing personal resilience methods can potentially enhance the ability to handle or even avoid severe outcomes of burnout, compassion fatigue, and vicarious trauma (Fetter, 2012; Henry, 2014). Despite the potential for significant reward and job satisfaction, research indicate that nurses often experience high levels of depersonalization and weariness, which can lead to a sense of lacking organizational support (Liu et al., 2018).

STRATEGIES TO SUPPORT NURSES' WELL-BEING

Recognizing the importance of supporting nurses' well-being, healthcare organizations have begun to implement initiatives aimed at promoting resilience and self-care among nursing staff. These initiatives include stress management programs, mental health resources, peer support groups, and wellness activities designed to help nurses cope with the demands of their work (Dalton, A., 2021; Flaubert et al., 2021; Kent, S., 2021; Hategan, A. and Riddell, T., 2020). By providing nurses with the tools and resources they need to prioritize their own well-being, healthcare organizations can create a supportive work environment that fosters resilience, job satisfaction, and high-quality patient care.

Strategies can be as follows:

- **Stress Management Programs:** Healthcare organizations can offer stress management programs that provide nurses with tools and techniques to effectively manage stress. These programs may include workshops on mindfulness, relaxation techniques, time management, and stress reduction strategies. By equipping nurses with these skills, they can better cope with the pressures of their work and reduce the risk of burnout (White et al., 2021).
- **Mental Health Resources:** Providing access to mental health resources such as counseling services, therapy sessions, and mental health hotlines can be instrumental in supporting nurses' well-being. Nurses may face emotional challenges and traumatic experiences in their work, and having access to mental health support can help them process their feelings and seek help when needed (Robins-Browne et al., 2022).



- Peer Support Groups: Peer support groups allow nurses to connect with their colleagues who may be experiencing similar challenges. These groups provide a safe space for nurses to share their experiences, seek advice, and receive emotional support from their peers. Peer support can help reduce feelings of isolation and promote a sense of camaraderie among nursing staff (Haldar et al., 2017).

- Wellness Activities: Healthcare organizations can organize wellness activities such as yoga classes, meditation sessions, fitness programs, and nutrition workshops to promote physical and mental well-being among nurses. These activities can help nurses relax, recharge, and maintain a healthy lifestyle, which is essential for managing stress and preventing burnout.
- Work-Life Balance Initiatives: Encouraging work-life balance is essential for supporting nurses' well-being. Healthcare organizations can implement initiatives such as flexible scheduling, paid time off, and remote work options to help nurses achieve a healthy balance between their work responsibilities and personal life. By prioritizing work-life balance, nurses can prevent burnout and maintain their overall well-being.
- Training and Education: Providing training and education on topics such as resilience, self-care, and mental health awareness can empower nurses to take care of their well-being. Healthcare organizations can offer workshops, seminars, and online resources to educate nurses on strategies for managing stress, building resilience, and seeking help when needed. By investing in nurses' training and education, organizations can equip them with the knowledge and skills to prioritize their well-being.
- Resilience Programs: Implementing resilience programs can be a highly successful strategy for enhancing staff resilience while simultaneously reducing staff burnout and secondary trauma (Kerig, P.K., 2019). This can result in nurses who exhibit higher levels of engagement, responsiveness, and creativity in their treatment, as well as more reliability and a reduced propensity for errors. Consequently, this results in increased patient satisfaction and improved quality indices. Patients come into medical care in a state of vulnerability and so require staff that possess not only expertise and knowledge, but also the willingness to support them during the challenging moments of diagnosis, treatment, and result. If nurses are provided with the chance to acquire new skills, the necessary assistance to implement them



consistently, and the self-awareness to see the potential impact of a patient-centered long-term career, they can emerge as leaders in this field (Kelly, L., 2020).

CONCLUSION

Nurses face significant challenges related to stress, burnout, and well-being in the healthcare workforce. Factors such as heavy workloads, emotional demands, and organizational constraints contribute to nurses' mental and physical exhaustion, leading to negative consequences for both nurses and patients. Healthcare professionals, including nurses, need to acknowledge the possibility of harmful consequences resulting from prolonged exposure to patient trauma. According to Remen (1996) The notion that we may encounter hardship on a regular basis without being impacted by it is just as impractical as anticipating to traverse water without becoming wet. Engaging in self-care practices enhances one's ability to cope with stress and reduces the risk of experiencing burnout and secondary trauma. However, many nurses tend to perceive pedicures and massages as the main forms of self-care. While these ways do provide comfort, there are numerous other techniques that may be easily accessed, even during a demanding shift.

Self-care is a shared obligation, with the institution responsible for providing programs that cater to the diverse needs of the staff, and the individual staff member responsible for self-reflection, choosing effective ways, and consistently implementing those methods. Self-care for staff can be seen as an additional type of personal protection equipment in a workplace that non-medical workers may not encounter.

By promoting resilience and self-care practices, healthcare organizations can support nurses in coping with the demands of their work, enhancing their well-being, job satisfaction, and the quality of care they provide. Future research should continue to explore effective strategies for supporting nurses' mental health and resilience, ultimately benefiting both nurses and the patients they care for.



REFERENCES

SCIENTIFIC REPORTS

Atay, N., Sahin, G. and Buzlu, S., 2021. The relationship between psychological resilience and professional quality of life in nurses. *Journal of Psychosocial Nursing and Mental Health Services*, 59(6), pp.31-36.

Cherny, N.I., Werman, B. and Kearney, M., 2015. Burnout, compassion fatigue, and moral distress in palliative care. *Oxford textbook of palliative medicine*, 5(1), pp.246-259.

Cleary, M., Kornhaber, R., Thapa, D.K., West, S. and Visentin, D., 2018. The effectiveness of interventions to improve resilience among health professionals: A systematic review. *Nurse education today*, 71, pp.247-263.

Cooper, A.L., Brown, J.A. and Leslie, G.D., 2021. Nurse resilience for clinical practice: An integrative review. *Journal of Advanced Nursing*, 77(6), pp.2623-2640.

Cooper, A.L., Brown, J.A., Rees, C.S. and Leslie, G.D., 2020. Nurse resilience: A concept analysis. *International journal of mental health nursing*, 29(4), pp.553-575.

Dalton, A., 2021. Mitigating burnout and enhancing wellness in anesthesiologists: individual interventions, wellness programs, and peer support. *International Anesthesiology Clinics*, 59(4), pp.73-80.

Dyrbye, L.N., Trockel, M., Frank, E., Olson, K., Linzer, M., Lemaire, J., Swensen, S., Shanafelt, T. and Sinsky, C.A., 2017. Development of a research agenda to identify evidence-based strategies to improve physician wellness and reduce burnout. *Annals of Internal Medicine*, 166(10), pp.743-744.

Flaubert, J.L., Le Menestrel, S., Williams, D.R., Wakefield, M.K. and National Academies of Sciences, Engineering, and Medicine, 2021. Supporting the Health and Professional Well-Being of Nurses. In *The Future of Nursing 2020-2030: Charting a Path to Achieve Health Equity*. National Academies Press (US).

Grafton, E., Gillespie, B. and Henderson, S., 2010, November. Resilience: the power within. In *Oncology nursing forum* (Vol. 37, No. 6, p. 698).

Gustafsson, T. and Hemberg, J., 2022. Compassion fatigue as bruises in the soul: A qualitative study on nurses. *Nursing ethics*, 29(1), pp.157-170.

Haldar, S., Mishra, S.R., Khelifi, M., Pollack, A.H. and Pratt, W., 2017, May. Opportunities and design considerations for peer support in a hospital setting. In *Proceedings of the 2017 CHI Conference on Human Factors in Computing Systems* (pp. 867-879).

Hategan, A. and Riddell, T., 2020. Bridging the gap: Responding to resident burnout and restoring well-being. *Perspectives on Medical Education*, 9(2), pp.117-122.

Henry, B.J., 2014. Nursing Burnout Interventions. *Clinical Journal of Oncology Nursing*, 18(2).



Jun, J., Ojemeni, M.M., Kalamani, R., Tong, J. and Crecelius, M.L., 2021. Relationship between nurse burnout, patient and organizational outcomes: Systematic review. *International journal of nursing studies*, 119, p.103933.

Kelly, L., 2020. Burnout, compassion fatigue, and secondary trauma in nurses: Recognizing the occupational phenomenon and personal consequences of caregiving. *Critical Care Nursing Quarterly*, 43(1), pp.73-80.

Kelly, L.A. and Lefton, C., 2017. Effect of meaningful recognition on critical care nurses' compassion fatigue. *American Journal of Critical Care*, 26(6), pp.438-444.

Kent, S., 2021. *Wellness Programs for Healthcare Graduate Students: A Literature Review with Recommendations for Nurse Anesthesia Programs* (Doctoral dissertation, University of Southern California).

Kerig, P.K., 2019. Enhancing resilience among providers of trauma-informed care: A curriculum for protection against secondary traumatic stress among non-mental health professionals. *Journal of Aggression, Maltreatment & Trauma*, 28(5), pp.613-630.

Khalaf, I.A., Al-Dweik, G., Abu-Snieneh, H., Al-Daken, L., Musallam, R.M., BaniYounis, M., Al-Rimawi, R., Khatib, A.H., "Habeb Allah", A., Atoum, M.H. and Masadeh, A., 2018. Nurses' experiences of grief following patient death: A qualitative approach. *Journal of Holistic Nursing*, 36(3), pp.228-240.

Khamisa, N., Oldenburg, B., Peltzer, K. and Ilic, D., 2015. Work related stress, burnout, job satisfaction and general health of nurses. *International journal of environmental research and public health*, 12(1), pp.652-666.

Leng, M., Xiu, H., Yu, P., Feng, J., Wei, Y., Cui, Y., Zhang, M., Zhou, Y. and Wei, H., 2020. Current state and influencing factors of nurse resilience and perceived job-related stressors. *The Journal of Continuing Education in Nursing*, 51(3), pp.132-137.

Liu, W., Zhao, S., Shi, L., Zhang, Z., Liu, X., Li, L.I., Duan, X., Li, G., Lou, F., Jia, X. and Fan, L., 2018. Workplace violence, job satisfaction, burnout, perceived organisational support and their effects on turnover intention among Chinese nurses in tertiary hospitals: a cross-sectional study. *BMJ open*, 8(6), p.e019525.

Ma, H., Huang, S.Q., We, B. and Zhong, Y., 2022. Compassion fatigue, burnout, compassion satisfaction and depression among emergency department physicians and nurses: a cross-sectional study. *BMJ open*, 12(4), p.e055941.

Missouridou, E., 2017. Secondary posttraumatic stress and nurses' emotional responses to patient's trauma. *Journal of trauma nursing | JTN*, 24(2), pp.110-115.

Muir, K.J., Wanchek, T.N., Lobo, J.M. and Keim-Malpass, J., 2022. Evaluating the costs of nurse burnout-attributed turnover: a Markov modeling approach. *Journal of patient safety*, 18(4), pp.351-357.



Öksüz, E., Demiralp, M., Mersin, S., Tüzer, H., Aksu, M. and Sarıkoc, G., 2019. Resilience in nurses in terms of perceived social support, job satisfaction and certain variables. *Journal of nursing management*, 27(2), pp.423-432.

Ondrejková, N. and Halamová, J., 2022. Qualitative analysis of compassion fatigue and coping strategies among nurses. *International journal of nursing sciences*, 9(4), pp.467-480.

Pursio, K., Kankkunen, P., Sanner-Stiehr, E. and Kvist, T., 2021. Professional autonomy in nursing: An integrative review. *Journal of nursing management*, 29(6), pp.1565-1577.

Reimer, N., 2013. Creating Moments That Matter: Strategies to Combat Compassion Fatigue. *Clinical Journal of Oncology Nursing*, 17(6).

Robins-Browne, K., Lewis, M., Burchill, L.J., Gilbert, C., Johnson, C., O'Donnell, M., Kotevski, A., Poonian, J. and Palmer, V.J., 2022. Interventions to support the mental health and well-being of front-line healthcare workers in hospitals during pandemics: an evidence review and synthesis. *BMJ open*, 12(11), p.e061317.

Rubab, S., 2024. Effect of customer incivility and emotional exhaustion on job satisfaction and turnover intentions in nurses at a tertiary care cancer hospital in Pakistan.

Sacadura-Leite, E., Sousa-Uva, A., Ferreira, S., Costa, P.L. and Passos, A.M., 2019. Working conditions and high emotional exhaustion among hospital nurses. *Revista Brasileira de Medicina do Trabalho*, 17(1), p.69.

Schlak, A.E., Aiken, L.H., Chittams, J., Poghosyan, L. and McHugh, M., 2021. Leveraging the work environment to minimize the negative impact of nurse burnout on patient outcomes. *International Journal of Environmental Research and Public Health*, 18(2), p.610.

Sisto, A., Vicinanza, F., Campanozzi, L.L., Ricci, G., Tartaglini, D. and Tambone, V., 2019. Towards a transversal definition of psychological resilience: a literature review. *Medicina*, 55(11), p.745.

Sullivan, C.E., CPNP-AC, C.P.H.O.N., Amber-Rose King, B.S.N., Joni Holdiness, B.S.N., Judith Durrell, B.S.N., Christopher Spencer, R.N., Joshua Roberts, M.S.N., Ogg, S.W., Carla Cartwright, R.D., Baker, J.N. and Mark Brown MDiv, B.C.C., 2019, May. Reducing compassion fatigue in inpatient pediatric oncology nurses. In *Oncology nursing forum* (Vol. 46, No. 3, pp. 338-347). Oncology Nursing Society.

Vahedian-Azimi, A., Hajiesmaeili, M., Kangasniemi, M., Fornés-Vives, J., Hunsucker, R.L., Rahimibashar, F., Pourhoseingholi, M.A., Farrokhvar, L. and Miller, A.C., 2019. Effects of stress on critical care nurses: a national cross-sectional study. *Journal of intensive care medicine*, 34(4), pp.311-322.



White, C.H., Meier, N. and Swint, C., 2021. The implementation of a stress management program for health care workers through a rural occupational health clinic. *Workplace Health & Safety*, 69(4), pp.161-167.

Yu, H. and Gui, L., 2022. Compassion fatigue, burnout and compassion satisfaction among emergency nurses: A path analysis. *Journal of advanced nursing*, 78(5), pp.1294-1304.

Zander, M., Hutton, A. and King, L., 2010. Coping and resilience factors in pediatric oncology nurses CE. *Journal of Pediatric Oncology Nursing*, 27(2), pp.94-108.

Zhao, F., Qi, F., Zhao, Z. and Wang, C., 2019, November. Study on risk factors and countermeasures in operating room nursing management from the perspective of nursing management. In *Proceedings of the 2019 International Conference on Biomedical Sciences and Information Systems (ICBSIS 2019)* (pp. 60-63).