



Examining the Influence of Compassion Satisfaction, Compassion Fatigue, and Secondary Traumatic Stress on Nurses' Turnover Intentions in North Jordanian Hospitals

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Abstract:

Introduction: Healthcare professionals frequently encounter challenging and emotionally demanding situations in their line of work. Nurses, in particular, are consistently exposed to a spectrum of distressing scenarios, encompassing patients' suffering, life-threatening illnesses, and death. This exposure may lead to the development of compassion fatigue or heightened levels of secondary stress, posing potential risks to the mental health of nurses.

Objectives: This study aims to evaluate the levels of compassion satisfaction, compassion fatigue, and secondary stress among public hospital nurses in northern Jordan. Additionally, the research seeks to explore the associations between these factors and turnover intention in the nursing workforce.

Method: A cross-sectional study was conducted, selecting five hospitals out of the 13 public hospitals in the northern region of Jordan. A total of 372 nurses participated in the study through random sampling.

Results: The findings indicated that a substantial 84.9% of nurses experienced a low level of compassion satisfaction. Conversely, a high level of compassion fatigue was observed in 79.3%, while 90.6% reported elevated secondary stress levels. Furthermore, a significant correlation was identified between the scales of compassion satisfaction, compassion fatigue, secondary traumatic stress, and turnover intention among nurses.

Conclusion: Enhancing nurses' compassion satisfaction emerges as a crucial factor in promoting retention and reducing turnover. Increasing awareness of compassion fatigue and traumatic stress can contribute to enhanced job satisfaction and the intention of nurses to stay in their positions. Policymakers and hospital administrators should implement effective health policies aimed at mitigating compassion fatigue and secondary traumatic stress to alleviate turnover intention among nurses.

Keywords: Demanding, Distressing, Nursing, Compassion fatigue, Mental health.

1. INTRODUCTION

In the course of their daily duties, nurses consistently encounter various traumatic situations, including the suffering of patients, life-threatening illnesses, and death. As members of a compassionate profession, nurses establish profound connections with patients and their families over extended periods. This exposure to traumatic events and emotional engagement with patients and their families predispose nurses to the risk of developing compassion fatigue (Sarwar et al., 2020). Dr. Charles Figley, recognized as the originator of the compassion fatigue model, initially formulated it while working with Vietnam War combat veterans in the 1970s. He defined compassion fatigue as "a state of apathy and loss of ability to care, resulting from empathy and exposure to human suffering" (Figley, 2002; Sorenson et al., 2017). The majority of compassion fatigue research, including recent studies, has concentrated on specific nursing specializations

where exposure to traumatic situations is heightened, implying an increased risk of compassion fatigue. Such specializations include oncology, palliative care, emergency medicine, intensive care, and paediatrics (Bahari et al., 2022; Lee et al., 2021; Amameh & AL-Dwieb, 2022). On March 11, 2020, the World Health Organization (WHO) declared the novel coronavirus (COVID-19) outbreak a global pandemic (WHO, 2020). The rapid rise in infection rates and consequent mortality has led to a worldwide pandemic. Nursing, considered an essential profession in global healthcare delivery, aims to support patients empathetically across their physical, mental, emotional, and spiritual needs (Sharifnia et al., 2022). Nurses working in hospitals face challenging scenarios involving life and death, long working hours, and patient suffering (Babapour et al., 2022). Nurses may experience intense emotions while dealing with traumatized and suffering individuals and their families, and failure to process these emotions using healthy coping strategies can exacerbate Compassion Fatigue (Al-Majid et

al., 2018; Sorenson et al., 2016). According to the National Institute for Occupational Safety and Health in the USA, job stress is the most prevalent and costly problem faced by workers. And identifies several occupations, including nursing, as highly stressful (NISOH, 2020). Nurses grapple with daily challenges and work-related stressors such as work overload, extended shifts, and staff shortages (Arén et al., 2022).

The definition of "trauma" as provided in the Diagnostic and Statistical Manual of Mental Disorders (5th Edition) incorporates incidents involving actual or endangered death, thoughtful grievance, or an equivalent risk, as well as great vulnerability, fear, and horror. This definition explicitly includes the impact of mediated involvements within the context of hurtful events (Association, 2013). Within their profession, nurses often struggle with feelings of powerlessness as they observe the grief of patients and their relatives (Kostka et al., 2021). Their emotional engagement deepens further when offering assistance to patients and caregivers navigating unforeseen health crises (Howard et al., 2021). In such challenging situations, healthcare professionals, including trauma nurses, typically approach patient care with a profound sense of compassion (Baguley et al., 2020).

In this framework, compassion is delineated as the emotional sensitivity to understand the suffering of others and a shared willingness to help them resolve their challenges (Gilbert et al., 2017). As outlined by the professional quality of life model, individuals in helping professions, including nurses, may encounter both compassion satisfaction (a positive facet) and compassion fatigue (a negative facet) due to their engagements with patients who have undergone traumatic events (Lee et al., 2021). Compassion fatigue consists of two elements: secondary traumatic stress and burnout. Secondary traumatic stress refers to the stress endured by a caregiver as a result of the undesirable emotions that emerge from perceiving a patient's death, damage, or health-intimidating episode (Yildirim et al., 2018).

On the flip side, compassion satisfaction involves finding emotional fulfillment, such as joy and satisfaction resulting from utilizing professional nursing knowledge to assist others. It also encompasses the positive sense of doing well in social relationships, including interactions with colleagues (Thornton, 2017). Compassion satisfaction can be seen as an emotive state that alleviates secondary traumatic stress level, arising from aiding individuals exposed to a traumatic incident (H. Lee et al., 2021). The satisfaction and pleasure experienced by nurses' act as a shielding factor against the negative impacts of compassion fatigue (Thornton, 2017; Banibaker et al., 2019). Moreover, as a source of resilience, compassion satisfaction motivates nurses to persist in their work despite challenging conditions, unfavourable patient outcomes, and elevated stress levels. Serving as a defensive factor, it has the potential to diminish or even avoid burnout (Higgins et al., 2020; Durkin et al., 2016).

Nevertheless, numerous studies have utilized secondary traumatic stress and compassion fatigue interchangeably, examining the connection between compassion fatigue and burnout among emergency department nurses (Lopez et al., 2022), intensive care unit nurses (Amarneh & AL-Dwieb, 2022), and dependency care unit professionals (Arén et al., 2022). In contrast, certain researchers have conducted comprehensive reviews of past studies, aiming to differentiate compassion fatigue from secondary

traumatic stress. They hypothesized that compassion fatigue develops rapidly, while burnout progresses slowly and endures for a more extended period in healthcare professionals (Slatten et al., 2011). As a result, secondary traumatic stress and burnout have been considered distinct and independent concepts by some researchers (Ledoux, 2015; Sorenson et al., 2017).

Nurses consistently face stress and encounter traumatic situations, suggesting a heightened vulnerability to burnout (Fateminia et al., 2022; Liang et al., 2023). The occurrence of secondary traumatic stress is particularly notable among professionals dealing directly with patients. Nurses, managing substantial workloads, may undergo burnout as a consequence of secondary traumatic stress, resulting in diminished energy levels and various health issues (Epstein et al., 2020). Recent research indicates that nurses working with patients during the COVID-19 pandemic are especially prone to secondary traumatic stress, further elevating their risk of experiencing burnout (Salameh et al., 2023).

The origins of compassion fatigue can be understood through individuals' responses to life stressors (El-Ashry et al., 2023). Unfortunately, persistent compassion fatigue and secondary traumatic stress have detrimental effects on workforce health, interpersonal relationships with colleagues, and job performance (Cocker & Joss, 2016). In clinical settings, the presence of compassion fatigue and traumatic stress poses significant dangers. Nurses experiencing high levels of compassion fatigue exhibit more practice errors, elevated patient mortality rates, and increased infection rates, ultimately compromising patient safety and the quality of care (Wolotira, 2023; Wong et al., 2022). The influence of compassion satisfaction and the level of secondary traumatic stress is most evident in motivating nurses to participate actively in activities related to patient safety. Elevated levels of compassion satisfaction and reduced levels of compassion fatigue signify a greater commitment to engaging in nursing tasks associated with patient safety (Ryu & Shim, 2022). Consequently, the association between compassion fatigue, psychological distress, and negative occupational consequences encompasses a decline in the quality of patient care, increased irritability with colleagues, and a likelihood of intending to leave one's job. Moreover, nurses are at risk of encountering adverse personal consequences, such as substance misuse and suicide (Babapour et al., 2022).

Organizations and managers bear the responsibility of minimizing the risk of compassion fatigue in the workplace. This can be achieved by creating a work environment that is emotionally supportive, physically secure, and respectful, ultimately alleviating both intrapersonal and interpersonal stress for healthcare workers (Cherny et al., 2021). Hence, it is crucial to examine nurses' levels of compassion fatigue and psychological distress. This approach aims to bring attention to their experiences, offer support to address their challenges, and enhance the quality of care they provide. However, there is a dearth of study conducted in Jordan concerning compassion fatigue, compassion satisfaction, and secondary traumatic stress, and their effect on nurses' intention to stay. Therefore, this issue holds considerable significance for both public and other hospitals, as it directly relates to their ability to deliver outstanding health care to patients.

2. Study objective

The objectives of this study are as follows:

1. To evaluate the extent of compassion fatigue among nurses employed in northern Jordanian hospitals.
2. To gauge the level of compassion satisfaction among nurses employed in northern Jordanian hospitals.
3. To assess the level of secondary traumatic stress among nurses working in northern Jordanian hospitals.
4. To examine the correlation between compassion fatigue, compassion satisfaction, and secondary traumatic stress with turnover intention among nurses in northern Jordanian hospitals.

3. Method

3.1 Design

This study employs a quantitative, non-experimental, cross-sectional correlation design.

3.2 Participant

This study was carried out in Jordan from October 2023 to December 2023. The northern part of Jordan is served by a total of 13 public hospitals, employing approximately 3000 nurses. According to the sample size calculator, the minimum required sample size is 341, considering a confidence level of 95%, a margin of error of 5%, and a population proportion of 50% (Calculator.net, 2022). The investigator engaged a random selection process to choose four hospitals from the list of 13 hospitals serving the study area. The list of nurses who work in these hospitals was obtained from the nursing directors, then the nurses were randomly chosen by the researcher from the list of nursing staff that attaining from hospitals. The list of nurses was combined in one list; Nurses were selected through a straightforward random sampling method from the list. Anonymity was guaranteed by assigning a number to each nurse on the list from every hospital. To account for potential non-respondents or missing data, we chose to exceed the minimal required sample size. The researcher distributed 500 questionnaires, receiving 374 responses. After excluding two incomplete questionnaires during data analysis, the response rate for this study was 75%.

3.3 Instrument

The instrument utilized in this study comprises three scales.

1- Demographics data:

These include demographic variables such as age, gender, marital status, education level, years of experience in nursing, current job title, and the hospital of employment.

2- The Professional Quality of Life Scale – 5 (ProQOL)

The Professional Quality of Life Scale (ProQOL) is a self-report questionnaire consisting of 30 items. It is precisely intended to assess compassion fatigue (10 items), compassion satisfaction (10 items), and secondary stress levels (10 items) among serving specialists those in working in hospital locations. It proves beneficial for individuals engaged in emotional labour and professionals regularly exposed to traumatic situations. The ProQOL-5 is valid tool to assess compassion satisfaction,

compassion fatigue, and secondary stress level, and have been used to assess nurses quality of life in health care sitting (Bahari et al., 2022; Amarneh & AL-Dwieb, 2022). The scoring scale interpretation is as follows: If a participant's total score for compassion satisfaction, compassion fatigue, and secondary traumatic stress is 22 or less, it indicates a high level of compassion satisfaction, fatigue, and secondary stress. Scores falling between 23 and 41 suggest an average level, while a score of 42 or more signifies a low level of compassion satisfaction, compassion fatigue, and secondary traumatic stress. (H. Lee et al., 2021; Higgins et al., 2020).

3- Turnover intention

Measured on a six-item scale adapted from the overall reliability of the six-item Turnover Intention Scale (TIS-6) with a Cronbach's alpha of 0.80, where responses are rated on a scale from 1=Never to 5=Always and 1=Highly unlikely to 5=Highly likely. The item mean scale ranges from 1=To a very large extent to 5=To no extent. Higher scores on the TIS-6 indicate a greater response for participants' turnover intention. The TIS-6 has been established as a reliable and valid scale for measuring turnover intention and predicting actual turnover in a previous study (Bothma & Roodt, 2013).

3.4 Reliability and validity

Factor analysis, utilizing the principal component extraction method with varimax rotation and Kaiser Normalization, was employed to assess the scales of (ProQOL) and Turnover Intention. The results demonstrate that the items used in measuring these scales met the conditions of factor analysis. The Cronbach's reliability coefficient for the factors within (ProQOL) and the Turnover Intention scale ranged between 0.71 and 0.92.

4. Data analysis

Descriptive statistics were calculated to outline demographic features among the research contributors, with 372 response analysed, no missing data were found, demonstrating a 0% level for all measures. To gauge non-response bias, characteristics of early and late nurses were related, as mentioned by Hair et al. (2006) for evaluating nonresponse bias in quantitative studies. The exploration showed no significant changes ($p > 0.05$) through all measures between early and late respondent, signifying the study results can be widespread to the population. Skewness and kurtosis tests were engaged to gauge statistics normality, the findings representing a normal distribution as skewness standards floor between -2 to +2, and kurtosis standards were between -7 to +7. The significance level for this study is set at ($p < 0.05$).

4.1 demographic characteristics

In this research, 372 participants submitted surveys that were deemed usable. The age of study participants varied between 22 and 61 years, with a mean age of 35.7. The overall professional experience of participants ranged from 1 to 31 years, with an average of 10.1 years. A majority of the participants were female (51.6%), single (56.5%), and working as Registered Nurses (69.6%). Most held a bachelor's degree (75.3%), followed by diploma holders (21.5%). Among the participants, 31% were affiliated with Princess Basma Hospitals, while 28.2% were employed at Princess Rahama Hospital. As presents in table below.

Sample characteristics (N = 372)

Sample characteristics	Number	Percentage
Gender		
Male	180	48.4%
Female	192	51.6%
Marital status		
single	210	56.5%
Married	150	40.3%
Widowed	12	3.2%
Education level		
Diploma	80	21.5%
Bachelors	280	75.3%
Masters	12	3.2%
current job title		
Assistance nurse	80	21.5%
Staff nurse	259	69.6%
Team leader nurse	20	5.4%
Head nurse and deputy head nurse	6	1.6%
Nursing supervisor	7	1.9%
Others	0	0
Hospital of working		
princess Basma hospital	115	31%
Princess Rahma hospital	105	28.2%
Al-Eman Hospital	60	16.1%
Jaresh governmental hospital	50	13.4%
Al-Mafraq Government Hospital	42	11.3%

4.2 Level of compassion fatigue, compassion satisfaction, and secondary traumatic stress level among nurses

The descriptive statistics for nurses' levels of compassion fatigue, compassion satisfaction, and secondary traumatic stress are expressed in total scores as follows: 22 or less signifies a high level, 23 to 41 denotes an average level, and 42 and above indicates a low level. The findings reveal that the majority of nurses scored >42 for compassion satisfaction (n=316, 84.9%), with a computed average mean total score of 43, indicating a low level of compassion satisfaction among nurses. Similarly, the descriptive statistics for compassion fatigue indicate that a significant majority of nurses experienced a high level of compassion fatigue (n=295, 79.3%), with a mean total score of 20.6, reflecting a high level of compassion fatigue. Furthermore, the results for secondary traumatic stress levels show that the vast majority of nurses reported a high level of secondary traumatic stress (n=337, 90.6%), with a mean total score of 19.3, signifying a high level of secondary stress. The distribution of scores is presented in the table below.

Level of compassion satisfaction, compassion fatigue, and secondary traumatic stress level (372)

Compassion satisfaction	Number of nurses	Percentage
High level of compassion satisfaction ≤ 22	21	5.6%
Average level of compassion satisfaction 23-41	35	9.5%
Low level of compassion satisfaction > 41	316	84.9%
Compassion fatigue		
low level of compassion fatigue > 41	5	1.2%
Average level of compassion fatigue 23-41	72	19.5%
High level of compassion fatigue ≤ 22	295	79.3%
Secondary traumatic stress level		
low level of secondary stress > 41	10	2.6%
Average level of secondary stress level 23-41	25	6.8%
High level of secondary stress level ≤ 22	337	90.6%

4.3 The correlation of the compassion fatigue, compassion satisfaction, and secondary traumatic stress and turnover intention among nurses.

Pearson correlations were calculated to explore the associations among compassion fatigue, compassion satisfaction, secondary traumatic stress, and turnover intention among nurses. The findings indicate a moderate negative relationship between compassion satisfaction ($r = -0.51$, $p < 0.05$) and turnover intention. Moreover, there exists a high positive relationship between compassion fatigue ($r = 0.72$, $p < 0.05$), secondary traumatic stress level ($r = 0.74$, $p < 0.05$), and turnover intention among nurses.

5. Discussion

The objective of this study was to evaluate the levels of compassion satisfaction, fatigue, and secondary traumatic stress among nurses and examine how these factors relate to nurses' turnover intention. The results indicated that nurses exhibited low levels of compassion satisfaction, coupled with high levels of compassion fatigue and secondary traumatic stress. Our results align with previous studies conducted in different countries that utilized the same tool. For example, in a study conducted in Saudi Arabia by Shdaifat (2023), the mean compassion satisfaction score among nurses was 38, while the mean scores for compassion fatigue and secondary traumatic stress were 12.1 and 23, respectively. Wang et al. (2020) conducted a study across 11 tertiary hospitals in China, revealing mean scores for the dimensions of compassion satisfaction, compassion fatigue, and secondary traumatic stress as 32.6, 27.4, and 26.9, respectively. In Spain, the levels of compassion satisfaction, compassion fatigue, and secondary traumatic stress among healthcare professionals during the COVID-19 health crisis were reported as 39.3, 19.9, and 29.3, respectively (Ruiz-Fernández et al., 2020). Our results differ from studies conducted on emergency nurses in the United States, where the mean scores for the levels of compassion satisfaction, compassion fatigue, and secondary stress were reported as 39.77, 21.57, and 23.66, respectively (Hunsaker et al., 2015). In contrast,

a meta-analysis review study involving 28,509 nurses worldwide across 11 countries showed varying mean scores for compassion satisfaction, burnout, and secondary traumatic stress, with means of 33.12, 26.64, and 25.24, respectively (Xie et al., 2021). The variations in findings could be attributed to the diverse nursing working cultures worldwide. In Jordan, the insufficient number of nurses in the country fails to meet the demands of the healthcare sector. Consequently, factors such as intrinsic motivation, salary, and incentives were identified as crucial predictors of satisfaction among nurses. These incentives may have played a role in enhancing the levels of compassion satisfaction among nurses (Banibaker, Ahmad, et al., 2019).

The level of compassion satisfaction was notably low among individuals who expressed job dissatisfaction and those who did not have objectives to endure job. This finding aligns with the outcomes reported by Lee and Kim (2020) as well as Wang et al. (2020). This suggests that nurses experiencing dissatisfaction with their current workplace and harbouring no intention to continue working there exhibit a significant degree of burnout, consequently reporting a heightened turnover intention. The findings in this study emphasize the association between compassion fatigue and secondary traumatic stress levels with perceived stress and turnover intentions. The existence of compassion fatigue has resulted in psychological distress and an inclination towards resignation among nurses. Our findings align with other studies that have connected compassion fatigue to aspects such as work tension, the environment of work, prolonged working time, undesirable practised attitudes, and self-carelessness (Adimando, 2018; Aslan et al., 2022). Compassion fatigue and stress deplete the nurse's capacity to provide care and support to others. The resulting physical and emotional exhaustion leaves the individual incapable of effectively managing emotional demands. This significant decrease in energy levels can lead to a decline in nurses' empathy towards the patients they care for. This notion is reinforced by a study highlighting the influence of work stress and perceived social support on participants' turnover intention (Barr, 2017).

6. Conclusion and recommendation

The comprehensive findings of this study indicate a low level of compassion satisfaction and high levels of compassion fatigue and secondary traumatic stress among nurses in northern Jordanian hospitals. Turnover intention appears to be influenced by the prevailing levels of compassion satisfaction, fatigue, and stress among these nurses. Raising awareness about compassion fatigue and traumatic stress could contribute to enhanced job satisfaction and intention to stay among nurses, ultimately leading to improved patient care quality. It is crucial for the nursing profession to address support, strategies, and solutions that foster higher work satisfaction and implement effective measures to reduce turnover intention among nurses in public hospitals. However, extending this research to all health institutions in Jordan in the coming years is recommended. Regular assessments of compassion satisfaction, compassion fatigue, secondary traumatic stress, and turnover intention among healthcare professionals can provide valuable insights. Considering the various facets of turnover intention with a larger sample size is highly recommended for future research.

7. Limitation of the study

The limitations of the current study encompass the use of quantitative cross-sectional methods. Supplementing the questionnaires with interview schedules could have offered a more in-depth understanding of the statistical data. Additionally, as the sample comprised 372 nurses from public hospitals in the northern part, it may not fully represent the entirety of nurses in Jordan.

References

- Adimando, A. (2018). Preventing and Alleviating Compassion Fatigue Through Self-Care: An Educational Workshop for Nurses. *Journal of Holistic Nursing*, 36(4), 304–317. <https://doi.org/10.1177/0898010117721581>
- Al-Majid, S., Carlson, N., Kiyohara, M. (2018). Assessing the degree of compassion satisfaction and compassion fatigue among critical care, oncology, and charge nurses. *The Journal of Nursing Administration*, 48(6):310-315•
- Amaneh, B. H., & AL-Dwieb, H. M. (2022). Compassion fatigue, compassion satisfaction, and resilience among intensive care unit nurses. *International Journal of Health Sciences*, 6(2), 1123–1134. <https://doi.org/10.53730/IJHS.V6N2.11415>
- Arén, C., Jaçelli, A., Gesar, B., & From, I. (2022). The work-related stress experienced by registered nurses at municipal aged care facilities during the COVID-19 pandemic: a qualitative interview study. *BMC Nursing*, 21(1), 1–9. <https://doi.org/10.1186/S12912-022-01059-X/TABLES/2>
- Aslan, H., Erci, B., & Pekince, H. (2022). Relationship Between Compassion Fatigue in Nurses, and Work-Related Stress and the Meaning of Life. *Journal of Religion and Health*, 61(3), 1848–1860. <https://doi.org/10.1007/S10943-020-01142-0>
- Association, D. A. P. (2013). *Diagnostic and statistical manual of mental disorders: DSM-5*. https://www.academia.edu/download/38718268/csl6820_21.pdf
- Babapour, A.-R., Gahassab-Mozaffari, N., & Fathnezhad-Kazemi, A. (2022). Nurses' job stress and its impact on quality of life and caring behaviors: a cross-sectional study. *BMC Nursing* 2022 21:1, 21(1), 1–10. <https://doi.org/10.1186/S12912-022-00852-Y>
- Babapour, A. R., Gahassab-Mozaffari, N., & Fathnezhad-Kazemi, A. (2022). Nurses' job stress and its impact on quality of life and caring behaviors: a cross-sectional study. *BMC Nursing*, 21(1), 1–10. <https://doi.org/10.1186/S12912-022-00852-Y/TABLES/5>
- Baguley, S. I., Dev, V., Fernando, A. T., & Consedine, N. S. (2020). How Do Health Professionals Maintain Compassion Over Time? Insights From a Study of Compassion in Health. *Frontiers in Psychology*, 11. <https://doi.org/10.3389/FPSYG.2020.564554/FULL>
- Bahari, G., Asiri, K., Nouh, N., & Alqahtani, N. (2022). Professional Quality of Life Among Nurses: Compassion Satisfaction, Burnout, and Secondary Traumatic Stress: A Multisite Study. <https://doi.org/10.1177/23779608221112329>
- Banibakr, A. A., Shafie, Z. M., Mohammad, A. A., & Alkuwaisi, M. J. (2019). Factors influencing job satisfaction among nurses in Jordanian public hospitals. *International Journal of Advanced and Applied Sciences*, 6(1), 81–89. <https://doi.org/10.21833/ijaas.2019.01.011>
- Barr, P. (2017). Compassion fatigue and compassion satisfaction in neonatal intensive care unit nurses: Relationships with work stress and perceived social support. *Traumatology*, 23(2), 214–222. <https://doi.org/10.1037/TRM0000115>
- Bothma, C. F. C., & Roodt, G. (2013). The validation of the turnover intention scale. *SA Journal of Human Resource Management*, 11(1), 12. <https://doi.org/10.4102/SAJHRM.V11I1.507>
- Calculator.net. (2022). *Sample Size Calculator*. <https://www.calculator.net/sample-size-calculator.html?type=1&cl=95&ci=5&pp=59&ps=&x=0&y=0>
- Cherny, N. I., Ziff-Werman, B., & Kearney, M. (2021). Burnout, compassion fatigue, and moral distress in palliative care. *Oxford Textbook of Palliative Medicine*, 166–180. <https://doi.org/10.1093/MED/9780198821328.003.0017>
- Cocker, F., & Joss, N. (2016). Compassion Fatigue among Healthcare, Emergency and Community Service Workers: A Systematic Review. *International Journal of Environmental Research and Public Health*, 13(6). <https://doi.org/10.3390/IJERPH13060618>
- Durkin, M., Beaumont, E., Hollins Martin, C. J., & Carson, J. (2016). A pilot study exploring the relationship between self-compassion, self-judgement, self-kindness, compassion, professional quality of life and wellbeing among UK community nurses. *Nurse Education Today*, 46, 109–114. <https://doi.org/10.1016/j.nedt.2016.08.030>
- El-Ashry, A. M., Elsayed, S. M., Ghoneam, M. A., & Atta, M. H. R. (2023). Compassion fatigue and stress related to cardiopulmonary resuscitation: a study of critical care nurses'

- experiences. *BMC Nursing*, 22(1), 482. <https://doi.org/10.1186/S12912-023-01640-Y/TABLES/6>
19. Epstein, E. G., Haizlip, J., Liaschenko, J., Zhao, D., Bennett, R., & Marshall, M. F. (2020). Moral Distress, Mattering, and Secondary Traumatic Stress in Provider Burnout: A Call for Moral Community. *AACN Advanced Critical Care*, 31(2), 146–157. <https://doi.org/10.4037/AACNACC2020285>
20. Fateminia, A., Hasanvand, S., Goudarzi, F., & Mohammadi, R. (2022). Post-Traumatic Stress Disorder among Frontline Nurses during the COVID-19 Pandemic and Its Relationship with Occupational Burnout. *Iranian Journal of Psychiatry*, 17(4), 436. <https://doi.org/10.18502/IJPS.V17I4.10693>
21. Figley, C. R. (2002). Compassion fatigue: Psychotherapists' chronic lack of self care. *Journal of Clinical Psychology*, 58(11), 1433–1441. <https://doi.org/10.1002/jclp.10090>
22. Gilbert, P., Catarino, F., Duarte, C., Matos, M., Kolts, R., Stubbs, J., Ceresatto, L., Duarte, J., Pinto-Gouveia, J., & Basran, J. (2017). The development of compassionate engagement and action scales for self and others. *Journal of Compassionate Health Care* 2017 4:1, 4(1), 1–24. <https://doi.org/10.1186/S40639-017-0033-3>
23. Higgins, J. T., Okoli, C., Otachi, J., Lawrence, J., Bryant, E. D., Lykins, A., & Seng, S. (2020a). Factors Associated with Burnout in Trauma Nurses. *Journal of Trauma Nursing*, 27(6), 319–326. <https://doi.org/10.1097/JTN.0000000000000538>
24. Higgins, J. T., Okoli, C., Otachi, J., Lawrence, J., Bryant, E. D., Lykins, A., & Seng, S. (2020b). Factors Associated with Burnout in Trauma Nurses. *Journal of Trauma Nursing*, 27(6), 319–326. <https://doi.org/10.1097/JTN.0000000000000538>
25. Hossain, F., & Clatty, A. (2021). Self-care strategies in response to nurses' moral injury during COVID-19 pandemic. *Nursing Ethics*, 28(1), 23. <https://doi.org/10.1177/0969733020961825>
26. Howard, A. F., Lynch, K., Beck, S., Torrejón, M. J., Avery, J., Thorne, S., Porcino, A., De Vera, M., Lambert, L., Wolff, A., McDonald, M., Lee, J., Hedges, P., & McKenzie, M. (2021). At the Heart of It All: Emotions of Consequence for the Conceptualization of Caregiver-Reported Outcomes in the Context of Colorectal Cancer. *Current Oncology*, 28(5), 4184. <https://doi.org/10.3390/CURRONCOL28050355>
27. Hunsaker, S., Chen, H. C., Maughan, D., & Heaston, S. (2015). Factors that influence the development of compassion fatigue, burnout, and compassion satisfaction in emergency department nurses. *Journal of Nursing Scholarship: An Official Publication of Sigma Theta Tau International Honor Society of Nursing*, 47(2), 186–194. <https://doi.org/10.1111/JNU.12122>
28. Kostka, A. M., Borodzicz, A., & Krzemińska, S. A. (2021). Feelings and Emotions of Nurses Related to Dying and Death of Patients ; A Pilot Study. *Psychology Research and Behavior Management*, 14, 705–717. <https://doi.org/10.2147/PRBM.S311996>
29. Ledoux, K. (2015). Understanding compassion fatigue: understanding compassion. *Journal of Advanced Nursing*, 71(9), 2041–2050. <https://doi.org/10.1111/jan.12686>
30. Lee, H., Baek, W., Lim, A., Lee, D., Pang, Y., & Kim, O. (2021). Secondary traumatic stress and compassion satisfaction mediate the association between stress and burnout among Korean hospital nurses: a cross-sectional study. *BMC Nursing*, 20(1), 1–10. <https://doi.org/10.1186/S12912-021-00636-W/TABLES/4>
31. Lee, H. G., & Kim, J. S. (2020). Influence of secondary trauma stress, and vocation on turnover intention of nurses in regional trauma centers. *Journal of Korean Academy of Nursing Administration*, 26(1), 65–72. <https://doi.org/10.1111/JKANA.2020.26.1.65>
32. Lee, H. J., Lee, M., & Jang, S. J. (2021). Compassion Satisfaction, Secondary Traumatic Stress, and Burnout among Nurses Working in Trauma Centers: A Cross-Sectional Study. *International Journal of Environmental Research and Public Health*, 18(14). <https://doi.org/10.3390/IJERPH18147228>
33. Liang, L., Hu, Y., Fei, J., Yuan, T., Gao, R., Yue, J., Song, Q., Zhao, X., & Mei, S. (2023). Association between burnout and post-traumatic stress disorder among frontline nurse during COVID-19 pandemic: A moderated mediation analysis. *Journal of Clinical Nursing*. <https://doi.org/10.1111/JOCN.16916>
34. Lopez, J., Bindler, R. J., & Lee, J. (2022). Cross-Sectional Analysis of Burnout, Secondary Traumatic Stress, and Compassion Satisfaction Among Emergency Nurses in Southern California Working Through the COVID-19 Pandemic. *Journal of Emergency Nursing*, 48(4), 366. <https://doi.org/10.1016/J.JEN.2022.03.008>
35. NISOH. (2020, January 1). *Stress at work*. Stress at Work. <https://doi.org/10.26616/NIOSHPUB99101>
36. Ruiz-Fernández, M. D., Ramos-Pichardo, J. D., Ibáñez-Masero, O., Cabrera-Troya, J., Carmona-Rega, M. I., & Ortega-Galán, Á. M. (2020). Compassion fatigue, burnout, compassion satisfaction and perceived stress in healthcare professionals during the COVID-19 health crisis in Spain. *Journal of Clinical Nursing*, 29(21–22), 4321–4330. <https://doi.org/10.1111/JOCN.15469>
37. Ryu, I. S., & Shim, J. L. (2022). The Relationship between Compassion Satisfaction and Fatigue with Shift Nurses' Patient Safety-Related Activities. *Iranian Journal of Public Health*, 51(12), 2724. <https://doi.org/10.18502/IJPH.V51I12.11463>
38. Salameh, B., Daibes, A. G., & Qaddumi, J. (2023). Assessing the Prevalence, Predictors, and Consequences of Secondary Traumatic Stress Among Emergency Nurses in Palestine During the COVID-19 Pandemic. *SAGE Open Nursing*, 9. https://doi.org/10.1177/23779608231207224/ASSET/IMAGE/S/LARGE/10.1177_23779608231207224-FIG1.JPEG
39. Sarwar, A., Naseer, S., & Zhong, J. Y. (2020). Effects of bullying on job insecurity and deviant behaviors in nurses: Roles of resilience and support. *Journal of Nursing Management*, 28(2), 267–276. <https://doi.org/10.1111/JONM.12917>
40. Sharifnia, A. M., Fernandez, R., Green, H., & Alananzeh, I. (2022). Spiritual intelligence and professional nursing

- practice: A systematic review and meta-analysis. *International Journal of Nursing Studies Advances*, 4. <https://doi.org/10.1016/j.ijnsa.2022.100096>
41. Shdaifat, E. (2023). Assessing compassion satisfaction, compassion fatigue, stress and job satisfaction among nurses. *Journal of Industrial Psychology*, 49(1), 2082. https://www.scielo.org.za/scielo.php?pid=S2071-07632023000100015&script=sci_arttext
 42. Slatten, L. A., David Carson, K., & Carson, P. P. (2011). Compassion fatigue and burnout: What managers should know. *Health Care Manager*, 30(4), 325–333. <https://doi.org/10.1097/HCM.0B013E31823511F7>
 43. Sorenson, C., Bolick, B., Wright, K., & Hamilton, R. (2016). Understanding Compassion Fatigue in Healthcare Providers: A Review of Current Literature. *Journal of Nursing Scholarship: An Official Publication of Sigma Theta Tau International Honor Society of Nursing*, 48(5), 456–465. <https://doi.org/10.1111/JNU.12229>
 44. Sorenson, C., Bolick, B., Wright, K., & Hamilton, R. (2017). An Evolutionary Concept Analysis of Compassion Fatigue. *Journal of Nursing Scholarship*, 49(5), 557–563. <https://doi.org/10.1111/JNU.12312>
 45. Thornton, M. (2017). Compassion satisfaction and compassion fatigue among pediatric nurses and the impact on patient satisfaction. *Nursing ETDs Electronic Theses and Dissertations* Spring, 4–16. <https://search.proquest.com/openview/cfcc04bb3dcc53fbfe1a4816e4067a3b/1?pq-origsite=gscholar&cbl=18750>
 46. Wang, J., Okoli, C. T. C., He, H., Feng, F., Li, J., Zhuang, L., & Lin, M. (2020). Factors associated with compassion satisfaction, burnout, and secondary traumatic stress among Chinese nurses in tertiary hospitals: A cross-sectional study. *International Journal of Nursing Studies*, 102. <https://doi.org/10.1016/J.IJNURSTU.2019.103472>
 47. WHO. (2020). *Coronavirus Disease (COVID-19) Situation Reports*. <https://www.who.int/emergencies/diseases/novel-coronavirus-2019/situation-reports>
 48. Wolotira, E. A. (2023). Trauma, Compassion Fatigue, and Burnout in Nurses: The Nurse Leader's Response. *Nurse Leader*, 21(2), 202. <https://doi.org/10.1016/J.MNL.2022.04.009>
 49. Wong, C. L., Young, B., Lui, B. S. C., Leung, A. W. Y., & So, J. L. T. (2022). Professional quality of life and resilience in emergency department healthcare professionals during COVID-19 in Hong Kong: A cross-sectional study. *Hong Kong Journal of Emergency Medicine*, 29(3), 168–176. <https://doi.org/10.1177/10249079211049128>
 50. Xie, W., Chen, L., Feng, F., Okoli, C. T. C., Tang, P., Zeng, L., Jin, M., Zhang, Y., & Wang, J. (2021). The prevalence of compassion satisfaction and compassion fatigue among nurses: A systematic review and meta-analysis. *International Journal of Nursing Studies*, 120. <https://doi.org/10.1016/J.IJNURSTU.2021.103973>
 51. Yildirim, G., Kidak, L. B., & Yurdabakan, I. (2018). Secondary Traumatic Stress Scale: an adaptation study/Ikincil Travmatik Stres Olcegi: Bir uyarlama calismasi. *Anadolu Psikiyatri Dergisi*, 19(1), 45–52. <https://doi.org/10.5455/APD.247563>

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