ORIGINAL ARTICLE

Compassion Fatigue Influences the Mental Health and Turnover Intention of Nurses in the COVID-19 Pandemic

Janet Alexis A. De los Santos, PhD, RN

College of Nursing, Visayas State University

ABSTRACT

Background. Compassion fatigue is a true phenomenon experienced by overworked and exhausted nurses.

Objective. This study assessed frontline nurses' compassion fatigue, stress, mental health, and turnover intention during the second year of the COVID-19 outbreak

Methods. Using a cross-sectional design, an online survey was administered in the first quarter of 2021 to 259 hospital nurses in the Central Philippines using standardized scales to gather the necessary data.

Results. Nurses were found to have moderate levels of compassion fatigue and turnover intention, high stress, and good mental health. Results revealed that compassion fatigue was associated with poor mental health (r = −5.05, p = 0.01), higher stress levels (r = 0.54, p = <0.001), and turnover intention (r = 0.27, p = <0.001).

Conclusion. Pandemic-related compassion fatigue in nurses increases their stress, worsens their mental health, and heightens their intentions to leave their jobs. Organizations should address compassion fatigue through a supportive work climate.

Keywords: compassion fatigue, mental health, nursing; stress, turnover intent

INTRODUCTION

The COVID-19 pandemic is undoubtedly a time of psychological challenge for any healthcare worker battling the demands of work and personal life.

Nurses on the frontline have suffered post-traumatic stress disorder (PTSD), psychological distress,[1] clinical depression, anxiety, somatization, and sleep disturbances.[2,3] This prolonged agony has compromised health service delivery and has dealt collateral damage to nurses' professional and personal lives. Fear of infection is the main factor causing anxiety, frustration, distress, and quitting.[4-6] Female nurses, chronically ill nurses, untrained nurses, nurses who are concerned with infecting their loved ones (especially their children), night shifts nurses, and nurses with a negative job perception are at greater risk for pandemic-related anxiety and stigma.[7-10] Nurses face an especially challenging health situation.

Compassion fatigue (CF) is one negative consequence of chronic exposure to a stressful work environment. It is defined as a complete physical and psycho-emotional exhaustion from nurturing patients, chronic exposure to patients' suffering, personal and work-related stressors, and a lack of self-care.[11]

eISSN 2094-9278 (Online)
Published: August 29, 2023
https://doi.org/10.47895/amp.vi0.5137

Corresponding author: Janet Alexis A. De los Santos, PhD, RN
College of Nursing
Visayas State University
Visca, Baybay City, Leyte, 6521A, Philippines
Email: janetalexis.delossantos@vsu.edu.ph
ORCiD: https://orcid.org/0000-0003-0291-0801

It is more common in Asia than in America and Europe.[12] It creates problems in the work environment between colleagues and between nurses and patients.[13] Coetzee and Laschinger's[14] Compassion Fatigue Model emphasizes the roles of personal, organizational, and energy resources in maintaining compassion satisfaction. A lack in these three aspects predisposes a healthcare worker to feelings of inadequacy, distress, and loss of control.

Fostering health protocol vigilance and mindfulness interventions are effective means of promoting mental health and well-being in this pandemic.[15,16] Most frontliners cope through exercise, proper diet, and virtual therapy.[17] Problem- and emotion-focused interventions can improve coping, resilience, and sense of value.[18] Family ties and spirituality were also effective coping mechanisms.[19]

Aim of the Study

Across all professions, nurses are the most predisposed to this condition, especially those who work in emergency departments and intensive critical care.[20-22] Few studies have examined the effect of compassion fatigue on psychological well-being and turnover intentions among frontline nurses during the pandemic.[23] To fill this gap, this study aims to determine the influence of CF on these factors during the second year of the COVID-19 outbreak.

METHODS

Research Design

This study was a cross-sectional design, using questionnaires distributed online.

Participants, Sampling, and Setting

This study was conducted in hospitals in Central Philippines through criterion sampling of nurses. Participants were included if they were: (1) a registered nurse in the country, (2) currently employed as a frontline COVID-19 ward assigned hospital nurse, and (3) employed for at least six months in their current institution to account for the adjustment period. Excluded were nurses without direct patient care. The researchers used GPower to estimate the necessary number of samples, using an effect size of 0.05, probability level of 0.05, and statistical power of 80%, requiring a sample size of 220. A total of 300 nurses were invited to participate in the online study, and 259 responded.

Instruments

Four self-report questionnaires were transcribed via Google Forms and distributed online.

The CF-Short Scale[24] was used to measure CF among the participants. The scale is comprised of 13 items scored using a 10-point Likert scale (1 for "never" to 10 for "very frequent"). This scale is found to be reliable with a high internal consistency value ($\alpha = 0.91$).[24] For the present study, the scale has an internal consistency of $\alpha = 0.90$. The scores were interpreted using the mean scores (a higher score indicates higher compassion fatigue).

The Perceived Stress Scale[25] was used to measure stress. The scale is composed of 14 items on a 5-point Likert scale (0 for "never" to 4 as "very often"). Originally, the scale had an adequate psychometric property based on its internal consistency of $\alpha = 0.90$. The scores were interpreted using means (a higher score indicates high perceived stress). For the present study, the scale showed excellent internal consistency based on Cronbach's $\alpha = 0.89$.

To measure mental health**,** we used the Mental Health Inventory which is composed of five items scored on a six-point Likert scale (0 for "none of the time" to 5 for "all of the time") (a higher score indicates poorer mental health). Previous studies reported the scale to have excellent internal consistency.[26] For the present study, the scale displayed high internal consistency (Cronbachs' $\alpha = 0.91$).

To measure organizational turnover intention, we used a single-item question to assess their intention to leave their current job. Specifically, the question asks, "Given the current situation, I am thinking about leaving this healthcare facility." The item was measured using a 5-point Likert scale (1 for "strongly disagree" to 5 for "strongly agree") (a higher score indicates higher turnover intention). The scale has an internal consistency of $\alpha = 0.91$.[27] The Cronbach's alpha of this scale in the present study is 0.90.

Data Analysis

The researchers used SPSS ver. 23 to analyze the data. Descriptive statistics were used to present the means, frequencies, and percentages. The Pearson product-moment coefficient was used to analyze the correlation between the key variables of the study. To further test the correlation of the variables, multiple linear regression was used to determine their association. The level of significance was set at a p-value of < 0.05.

Data Collection Procedure and Ethical Considerations

This study was technically and ethically reviewed by the Samar State University Ethics Review Committee and was approved with protocol code: IRERC EA-0012-I. Informed consent was secured from all participants. A Google Forms questionnaire was created, and the link was forwarded to the email addresses and social media accounts of our prospective participants. The link presented an introduction to the study and the roles and expectations of the participants in the study. The consenting participants indicated their voluntary participation by ticking the option to continue. The data collection started in January and ended on the last week of February of 2021, giving the participants four weeks to accomplish the questionnaires. The researchers coordinated with the different hospital institutions for their approval to allow the data gathering and to assure the faculty of received responses.

RESULTS

Participants' Profile

The participants were, on average, 35 years old with around six years of service in their current organization and ten years of experience in the nursing profession. The majority of the participants are female, are unmarried, and have a BS Nursing degree (with the remainder having an MS Nursing degree). Most work full-time as staff nurses, in a large hospital facility. Most of the nurses were able to participate in COVID-19-related training and are vaccinated. Likewise, most of the nurses claimed to have sufficient personal protective equipment (PPE) and facility staffing (Table 1).

Correlation of CF with Stress, Mental Health, and Organizational Turnover Intention

Participants had high perceived stress levels. There was moderate intention to leave the organization and moderate levels of CF. Notably, the nurse participants reported good levels of mental health (Table 2).

Additionally, the results revealed that stress was negatively correlated with the participants' mental health, and positively correlated with organizational turnover intention and CF. The more stress they experience, the more likely their mental health is to dwindle, the more likely they are to have compassion fatigue, and the more likely they are to want to leave their jobs.

There was a strong correlation between CF and stress, and between CF and organizational turnover intention. CF was inversely correlated with mental health. The results suggest that as nurses experience more CF, the more stressed they become and the more likely they desire to quit their jobs.

Predictors of CF

Regression analysis revealed that CF decreases mental health while increasing stress and organizational turnover intention (Table 3). Nurses who experience higher levels of CF were more likely to report poorer mental health, higher stress levels, and increased desires to leave their organization.

DISCUSSION

Our findings suggest that the nurses have good mental health but also have high stress, moderate-to-high CF, and moderate intention to leave their current organization.

Indeed, nursing is one of the toughest and most stressful health professions. Even nursing students are stressed out by voluminous paperwork and clinical rotations.[28] Before the pandemic, stressors had already affected nurses' health, relationships, and sense of well-being.[29,30] The longer nurses engage in the profession, the more prone they are to compassion fatigue.[11] The COVID-19 pandemic has been too much to bear as stresses have grown exponentially. Stressors came in the form of health threats, compromised working conditions, and emotional exhaustion. The situation continued to deteriorate at the end of the pandemic's second year due to the changing beta and delta variants.[31]

Table 1. Nurse characteristics (n = 259)

Variables	Mean (in years)	SD
Age	34.86	8.83
Years of nursing experience	10.67	7.53
Years of experience in the organization	6.07	5.58
	Category	**n (%)**
Sex	Male	66 (25.5)
	Female	193 (74.5)
Marital status	Married	112 (43.2)
	Unmarried	147 (56.8)
Education	BSN	205 (79.2)
	MSN	54 (20.8)
Job status	Fulltime	234 (90.3)
	Part-time	25 (9.7)
Job role	Staff nurse	180 (69.5)
	Nurse manager	79 (30.5)
Hospital Size	Small	90 (34.7)
	Medium	74 (28.6)
	Large	95 (36.7)
Attendance in COVID-19-related training	Yes	138 (53.3)
	No	121 (46.7)
Vaccination Status	Vaccinated	202 (78.0)
	Not vaccinated	57 (22.0)
Personal Protective Adequacy	Insufficient	58 (22.4)
	Sufficient	201 (77.6)
Staff Adequacy	Insufficient	123 (47.5)
	Sufficient	136 (52.5)

Table 2. Mean scores and correlations between key study variables

Variables	Mean	SD	1	2	3	4
Stress	3.47	0.76	1			
Mental Health	3.99	0.93	−0.40**	1		
Organizational turnover intention	2.91	1.22	0.30**	−0.160*	1	
Compassion Fatigue	2.21	0.98	0.54**	−0.505*	0.27**	1

***p = 0.001; *p = 0.01*

Table 3. Effects of compassion fatigue on psychological stress, mental health, and organizational turnover intention

Model	B	SE	β	t	p	95.0% CI	
						Lower Bound	Upper Bound
Mental Health	−0.48	0.05	−0.51	−9.39	0.001	−0.58	−0.38
Stress	0.42	0.04	0.54	10.34	0.001	0.34	0.50
Organizational turnover intention	0.33	0.076	0.27	4.47	0.001	0.19	0.48

Nurses feel burdened with extended duty schedules, changing unit assignments, unfamiliarity with constantly changing protocols, depleted medical supplies, PPE, isolation, and quarantine-related protocols.[32] Physically, most of the nurses experienced fever, cough, and body weakness as a consequence of getting infected, in addition to skin damage from PPE use.[33] Nurses deal with vicarious traumatization from continuous grief from daily deaths of patients and colleagues. Similarly, there are also health and safety threats to themselves, colleagues, and family, which adds to the already stressed disposition these nurses have had for years. All these are contributory to our participants' feelings of compassion fatigue.

Consequently, the pandemic resulted in more frequent leaves of absence, role reassignments, and early retirements, contributing to the nursing shortage.[34] At present, there are numerous reports of nurses feeling abandoned by their institutions to deal with harsh work situations on their own.[35] Our participants also had a significant correlation between their experience of stress and their organizational turnover intention. This perceived lack of organizational support is seen as one factor that contributes to the feelings of moral distress, helplessness, and despair among nurses. All these difficult experiences are precursors to the evolution of the nurses' CF.

Despite these circumstances, our participants maintain indefatigable mental health, as displayed by their high scores. This may be indicative that the threat of COVID-19 has reduced considerably because of improved crisis management and the vaccine roll-out currently being implemented by the Philippine government.[36,37] This study is one of the first to present a contrasting report on nurses' mental health.

Another significant finding in this study is a high prevalence of CF (similar to previous studies)[23] and its strong association with perceived stress and turnover intentions. The presence of CF has led to psychological distress and a desire for resignation among nurses. Our findings echo other studies that linked CF to job strain, nature of work, extended work hours, negative professional attitude, and self-neglect.[38,39] CF consumes and deprives the nurse of the ability to nurture others. Debilitating physical and emotional exhaustion leaves the individual unable to manage emotional waste. A drastic change in energy decreases nurses' empathy toward patients under their care. This assumption is supported by a study that points out the impact of work stress and perceived social support on CF.[40]

The participants' turnover intention is surmised to come from feelings of dilemma, professional self-questioning, and the consequent turnover intention. There is a growing desire among nurses to leave their jobs and even their profession,[4,41] including those who have recovered from infection.[42]

Implications to Practice

CF exists and is palpable, especially among frontline nurses. It costs health institutions in terms of negative work behaviors, strained relationships, and compromised patient outcomes.[43] It is incumbent upon health institutions to look after the welfare and needs of their staff, especially in this health crisis. Nursing administrators need effectively reduce the incidence of this phenomenon, promote nurses' well-being, and improve patient safety.

Work conditions affect nurses' personal lives and predict the occurrence of CF.[44] Organizations should implement evidence-based solutions that could potentially eliminate CF. For example, assistance programs help nurses cope, boost resilience, and foster self-compassion.[23,45] Meaningful work recognitions are effective in increasing job satisfaction and enjoyment,[46] while regular debriefing improves nurses' resiliency.[47,48] All these can improve nurses' sense of well-being and ultimately preserve patient safety.

Study Limitations

This study has the following limitations. First, the study cannot be generalized because of its limited number of participants. Researchers may improve on this with a larger study. Second, the use of a quantitative design administered through an online survey limits participant sharing. A qualitative design may be a better method to extract participants' explicit experiences of the impact of CF on their psychological well-being and professional route.

CONCLUSION

This paper contributes to the growing body of knowledge on the impact of compassion fatigue among nurses in the COVID-19 frontline. Overall, Filipino nurses experience moderate levels of compassion fatigue, high reports of stress, but good mental health. Nurses who experience higher levels of compassion fatigue were more likely to report poorer mental health, higher stress levels, and increased desires to leave their organization.

Statement of Authorship

The author confirms sole responsibility for the conceptualization of work, acquisition and analysis of data, drafting and revising and approval of the final version submitted.

Author Disclosure

The author declared no conflicts of interest.

Funding Source

This study has no funding support.

REFERENCES

1. Shahrour G, Dardas LA. Acute stress disorder, coping self-efficacy and subsequent psychological distress among nurses amid COVID-19. J Nurs Manag. 2020 Oct; 28(7):1686-95. doi: 10.1111/jonm.13124. Epub 2020 Aug 30. PMID: 32767827; PMCID: PMC7436502.
2. Cénat JM, Blais-Rochette C, Kokou-Kpolou CK, Noorishad PG, Mukunzi JN, McIntee SE, et al. Prevalence of symptoms of depression, anxiety, insomnia, posttraumatic stress disorder, and psychological distress among populations affected by the COVID-19 pandemic: A systematic review and meta-analysis. Psychiatry Res. 2021 Jan; 295:113599. doi: 10.1016/j.psychres.2020.113599. Epub 2020 Nov 26. PMID: 33285346; PMCID: PMC7689353.
3. Sehsah R, Gaballah MH, El-Gilany AH, Albadry AA. Psychological distress among Egyptian physicians during COVID-19 pandemic. Int Arch Occup Environ Health. 2021 May; 94(4):731-40. doi: 10.1007/s00420-020-01624-4.
4. De los Santos JAA, Labrague LJ. The impact of fear of COVID-19 on job stress, and turnover intentions of frontline nurses in the community: a cross sectional study in the Philippines. Traumatology. 2021, Jan 21; 27(1):52-9. doi.org/10.1037/trm0000294.
5. Sampaio F, Sequeira C, Teixeira L. Impact of COVID-19 outbreak on nurses' mental health: a prospective cohort study. Environ Res. 2021 Mar; 194:110620. doi: 10.1016/j.envres.2020.110620.
6. Labrague L., De los Santos JAA, Fronda DC. Perceived COVID-19-associated discrimination, mental health, and professional-turnover intention among frontline clinical nurses: the mediating role of resilience. Int J Ment Health Nurs. 2021 Aug 10; 30(6):1674-83. doi:https://doi.org/10.1111/inm.12920.
7. Al Maqbali M, Al Sinani M, Al-Lenjawi B. Prevalence of stress, depression, anxiety and sleep disturbance among nurses during the COVID-19 pandemic: a systematic review and meta-analysis. J Psychosom Res. 2021 Feb; 141:110343. doi: 10.1016/j.jpsychores.2020.110343.
8. Arradaza VJA, Galvez JMC, De los Santos JAA. COVID-19 associated with stigma among nurses in the frontline: a phenomenological study. International Journal of Nursing and Health Services. 2022 Jun 3; 5(3). doi:10.35653/ijnhs.v5i3.539
9. Cui S, Jiang Y, Shi Q, Zhang L, Kong D, Qian M, et al. Impact of COVID-19 on anxiety, stress, and coping styles in nurses in emergency departments and fever clinics: a cross-sectional survey. Risk Manag Healthc Policy. 2021 Feb 15; 14:585-94. doi: 10.2147/RMHP.S289782.
10. Mekonen E, Shetie B, Muluneh N. The psychological impact of COVID-19 outbreak on nurses working in the northwest of Amhara regional state referral hospitals, northwest Ethiopia. Psychol Res Behav Manag. 2021 Jan 5; 13:1353-64. doi: 10.2147/PRBM.S291446.
11. Peters E. Compassion fatigue in nursing: a concept analysis. Nurs Forum. 2018 Oct; 53(4):466-80. doi: 10.1111/nuf.12274.
12. Xie W, Chen L, Feng F, Okoli C, Tang P, Zeng L, et al. The prevalence of compassion satisfaction and compassion fatigue among nurses: a systematic review and meta-analysis. Int J Nurs Stud. 2021 Aug; 120:103973. doi.org/10.1016/j.ijnurstu.2021.103973.
13. Xie W, Wang J, Okoli CTC, He H, Feng F, Zhuang L, et al. Prevalence and factors of compassion fatigue among Chinese psychiatric nurses: A cross-sectional study. Medicine (Baltimore). 2020 Jul 17; 99(29):e21083. doi: 10.1097/MD.0000000000021083.
14. Coetzee SK, Laschinger HKS. Toward a comprehensive, theoretical model of compassion fatigue: An integrative literature review. Nurs Health Sci. 2018 Mar; 20(1):4-15. doi: 10.1111/nhs.12387.
15. Farris SR, Grazzi L, Holley M, Dorsett A, Xing K, Pierce CR, et al. Online mindfulness may target psychological distress and mental health during COVID-19. Glob Adv Health Med. 2021 Mar 17; 10:21649561211002461. doi: 10.1177/21649561211002461.
16. Ruiz-Frutos C, Ortega-Moreno M, Allande-Cussó R, Ayuso-Murillo D, Domínguez-Salas S, Gómez-Salgado J. Sense of coherence, engagement, and work environment as precursors of psychological distress among non-health workers during the COVID-19 pandemic in Spain. Saf Sci. 2021 Jan; 133:105033. doi: 10.1016/j.ssci.2020.105033.
17. Shechter A, Diaz F, Moise N, Anstey DE, Ye S, Agarwal S, et al. Psychological distress, coping behaviors, and preferences for support among New York healthcare workers during the COVID-19 pandemic. Gen Hosp Psychiatry. 2020 Sep-Oct; 66:1-8. doi: 10.1016/j.genhosppsych.2020.06.007.
18. Lorente L, Vera M, Peiró T. Nurses´ stressors and psychological distress during the COVID-19 pandemic: the mediating role of coping and resilience. J Adv Nurs. 2021 Mar; 77(3):1335-44. doi: 10.1111/jan.14695.
19. Kim SC, Quiban C, Sloan C, Montejano A. Predictors of poor mental health among nurses during COVID-19 pandemic. Nurs Open. 2021 Mar; 8(2):900-7. doi: 10.1002/nop2.697.
20. Ruiz-Fernández MD, Ramos-Pichardo JD, Ibáñez-Masero O, Cabrera-Troya J, Carmona-Rega MI, Ortega-Galán ÁM. Compassion fatigue, burnout, compassion satisfaction and perceived stress in healthcare professionals during the COVID-19 health crisis in Spain. J Clin Nurs. 2020 Nov; 29:4321-30. doi: 10.1111/jocn.15469.
21. An Y, Yang Y, Wang A, Li Y, Zhang Q, Cheung T, et al. Prevalence of depression and its impact on quality of life among frontline nurses in emergency departments during the COVID-19 outbreak. J Affect Disord. 2020 Nov 1; 276:312-5. doi: 10.1016/j.jad.2020.06.047.
22. Alharbi J, Jackson D, Usher K. The potential for COVID-19 to contribute to compassion fatigue in critical care nurses. J Clin Nurs. 2020 Aug; 29:2762-4. doi: 10.1111/jocn.15314.
23. Labrague LJ, de Los Santos JAA. Resilience as a mediator between compassion fatigue, nurses' work outcomes, and quality of care during the COVID-19 pandemic. Appl Nurs Res. 2021 Oct; 61:151476. doi: 10.1016/j.apnr.2021.151476.
24. Adams RE, Boscarino JA, Figley CR. Compassion fatigue and psychological distress among social workers: a validation study. Am J Orthopsychiatry. 2006 Jan; 76(1):103-8. doi: 10.1037/0002-9432.76.1.103.
25. Cohen S, Kamarck T, Mermelstein R. A global measure of perceived stress. J Health Soc Behav. 1983 Dec; 24(4):385-96.
26. Veit CT, Ware JE Jr. The structure of psychological distress and well-being in general populations. J Consult Clin Psychol. 1983 Oct; 51(5):730-42. doi: 10.1037//0022-006x.51.5.730.
27. Labrague LJ, de Los Santos JAA. Fear of COVID-19, psychological distress, work satisfaction and turnover intention among frontline nurses. J Nurs Manag. 2021 Apr; 29(3):395-403. doi: 10.1111/jonm.13168.
28. Li ZS, Hasson F. Resilience, stress, and psychological well-being in nursing students: a systematic review. Nurse Educ Today. 2020 Apr 19; 90:104440. doi: 10.1016/j.nedt.2020.104440.
29. Missouridou E. Secondary posttraumatic stress and nurses' emotional responses to patient's trauma. J Trauma Nurs. 2017 Mar/Apr; 24(2):110-5. doi: 10.1097/JTN.0000000000000274.
30. Shah SA, Moore E, Robertson C, McMenamin J, Katikireddi SV, Simpson CR, et al. Public health Scotland and the EAVE II collaborators. Predicted COVID-19 positive cases, hospitalisations, and deaths associated with the Delta variant of concern, June-July, 2021. Lancet Digit Health. 2021 Sep; 3(9):e539-41. doi: 10.1016/S2589-7500(21)00175-8.
31. Benfante A, Di Tella M, Romeo A, Castelli L. Traumatic stress in healthcare workers during COVID-19 Pandemic: a review of the immediate impact. Front Psychol. 2020 Oct 23; 11:569935. doi: 10.3389/fpsyg.2020.569935.
32. Shaukat N, Ali DM, Razzak J. Physical and mental health impacts of COVID-19 on healthcare workers: a scoping review. Int J Emerg Med. 2020 Jul 20; 13(1):40. doi: 10.1186/s12245-020-00299-5.
33. Fauteux N. COVID-19: impact on nurses and nursing. Am J Nurs. 2021 May 1; 121(5):19-21. doi: 10.1097/01.NAJ.0000751076.87046.19.
34. Morgantini LA, Naha U, Wang H, Francavilla S, Acar Ö, Flores JM, et al. Factors contributing to healthcare professional burnout during the COVID-19 pandemic: a rapid turnaround global survey. MedRxiv. 2020 May 22:2020.05.17.20101915. doi: 10.1101/2020.05.17.20101915. Update in: PLoS One. 2020 Sep 3; 15(9):e0238217.

35. Labrague LJ, De Los Santos JAA. COVID-19 anxiety among front-line nurses: predictive role of organisational support, personal resilience and social support. J Nurs Manag. 2020 Oct; 28(7):1653-61. doi: 10.1111/jonm.13121.
36. Chew NWS, Cheong C, Kong G, Phua K, Ngiam JN, Tan BYQ, et al. An Asia-Pacific study on healthcare workers' perceptions of, and willingness to receive, the COVID-19 vaccination. Int J Infect Dis. 2021 May; 106:52-60. doi: 10.1016/j.ijid.2021.03.069.
37. Verger P, Scronias D, Dauby N, Adedzi KA, Gobert C, Bergeat M, et al. Attitudes of healthcare workers towards COVID-19 vaccination: a survey in France and French-speaking parts of Belgium and Canada, 2020. Euro Surveill. 2021 Jan; 26(3):2002047. doi: 10.2807/1560-7917.ES.2021.26.3.2002047.
38. Adimando A. Preventing and alleviating compassion fatigue through self-care: an educational workshop for nurses. J Holist Nurs. 2018 Dec; 36(4):304-17. doi: 10.1177/0898010117721581.
39. Aslan H, Erci B, Pekince H. Relationship between compassion fatigue in nurses, and work-related stress and the meaning of life. J Relig Health. 2021 Jan; 2:1-13. doi: 10.1007/s10943-020-01142-0.
40. Barr P. Compassion fatigue and compassion satisfaction in neonatal intensive care unit nurses: relationship with work stress and perceived social support. Traumatology. 2017 Jun; 23(2):214-22.
41. Mirzaei A, Rezakhani Moghaddam H, Habibi Soola A. Identifying the predictors of turnover intention based on psychosocial factors of nurses during the COVID-19 outbreak. Nurs Open. 2021 Nov; 8(6):3469-76. doi: 10.1002/nop2.896.
42. Mohammadi F, Radfar M, Hemmati Maslak Pak M. Workplace challenges and nurses recovered from COVID-19. Nursing Ethics. 2022; 29(2):280-92. doi:10.1177/09697330211020439.
43. Lee E, Daugherty J, Eskierka K, Hamelin K. Compassion fatigue and burnout, one institution's interventions. J Perianesth Nurs. 2019 Aug; 34(4):767-73. doi: 10.1016/j.jopan.2018.11.003.
44. Cetrano G, Tedeschi F, Rabbi L, Gosetti G, Lora A, Lamonaca D, et al. How are compassion fatigue, burnout, and compassion satisfaction affected by quality of working life? Findings from a survey of mental health staff in Italy. BMC Health Serv Res. 2017 Nov 21; 17(1):755. doi: 10.1186/s12913-017-2726-x.
45. Delaney MC. Caring for the caregivers: Evaluation of the effect of an eight-week pilot mindful self-compassion (MSC) training program on nurses' compassion fatigue and resilience. PLoS ONE. 2018; 13(11):e0207261. doi.org/10.1371/journal.pone.0207261.
46. Kelly LA, Lefton C. Effect of meaningful recognition on critical care nurses' compassion fatigue. Am J Crit Care. 2017 Nov; 26(6):438-44. doi: 10.4037/ajcc2017471.
47. Copeland D. Brief workplace interventions addressing burnout, compassion fatigue, and teamwork: a pilot study. West J Nurs Res. 2021 Feb; 43(2):130-7. doi: 10.1177/0193945920938048.
48. Schmidt M, Haglund K. Debrief in emergency departments to improve compassion fatigue and promote resiliency. J Trauma Nurs. 2017 Sep/Oct; 24(5):317-22. doi: 10.1097/JTN.0000000000000315.