

Examining the Relationship of Nurses' Demographic Characteristics on Compassion Satisfaction, Compassion Fatigue, and Secondary Traumatic Stress among Nurses

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Abstract

Introduction: Nurses regularly face intense human suffering in constrained healthcare settings, providing care to patients dealing with sudden, disfiguring, and life-threatening illnesses. This exposure puts them at risk of experiencing fatigue and Secondary Traumatic Stress. **Objectives:** this study aims to identify the social demographic factors linked to Compassion Satisfaction, compassion fatigue, and Secondary Traumatic Stress among nurses in the northern part of Jordan. **Methods:** The research involved 372 nurses from five public hospitals, employing a correlational design with a self-administered questionnaire adapted from the fifth version of the Professional Quality of Life scale. Random sampling was utilized for participant selection, and data analysis was performed using SPSS version 23 with appropriate statistical methods. **Results:** The findings indicate that the age of nurses is solely associated with Compassion Satisfaction, while factors such as years of experience, education level, and current position held are correlated with Compassion Satisfaction, compassion fatigue, and secondary stress levels. **Conclusion:** the study underscores the necessity to implement measures addressing the adverse psychological effects of constant exposure to distress among nurses. Recommendations include providing training on stress coping and psychological adjustment, along with ample material and spiritual support and encouragement

Key words: Exposure, Fatigue, Quality of Life, Suffering, Traumatic.

1- Introduction:

Nurses routinely encounter a spectrum of challenging situations in their professional roles, involving tasks such as alleviating patients' pain, managing individuals with life-threatening conditions, and navigating the emotional complexities associated with patient death. Serving as primary caregivers, nurses aspire to exhibit compassion in their interactions, establishing meaningful relationships with both patients and their families throughout the hospitalization process. However, the intensity of these connections, combined with the emotional investment required, can contribute to emotional exhaustion and the onset of compassion fatigue (1). Dr. Charles Figley, the creator of the compassion fatigue model, developed this framework during his deployment in combat in 1970 during the Vietnam War. He defined compassion fatigue as 'a condition of apathy and a diminished capacity for care, stemming from empathy and prolonged exposure to human suffering (2)(3). Therefore, the focus of the study was on nurses situated at the forefront within hospital settings, engaging directly with patients and their families. Given their exposure to traumatic stress conditions, nurses in these roles face an elevated risk of compassion fatigue, particularly those working in specialized areas such as oncology, palliative care, emergency, intensive care, and pediatrics units (4)(5)(6). The COVID-19 pandemic, officially declared by the World Health Organization on March 11, 2020, has exerted a profound global influence. Escalating infection rates have resulted in a surge in mortality on a worldwide scale. Given that nurses constitute the predominant portion of healthcare providers, they assume a pivotal role in providing essential support and integrating emotions to promote the holistic well-being—encompassing physical, emotional, spiritual, and mental

aspects—of patients and their families (7). Nurses across diverse healthcare settings encounter stressful and emotionally challenging situations, such as being exposed to patients in critical conditions, working extended hours, managing distressed patient families, witnessing patient suffering, experiencing family grief, and addressing the needs of both patients and their families (8). Nurses routinely confront daily stressful events, job-related stressors, fluctuating time demands, high workloads, and shortages of nursing staff, necessitating effective coping strategies to manage these challenges (9). Confronted with diverse traumatic situations, nurses may undergo heightened emotional experiences and grapple with the adoption of coping mechanisms, which can potentially result in compassion fatigue (10) (11). The National Institute of Occupational Safety and Health in the USA has identified job stress as one of the most formidable and financially burdensome issues from the perspective of workers, specifically highlights nursing as one of the most stressful careers (12).

The Diagnostic and Statistical Manual of Mental Disorders (5th Edition) defines "trauma" to encompass incidents involving actual or threatened death, severe injury, or equivalent risks, as well as experiences marked by intense vulnerability, fear, and horror. This definition explicitly acknowledges the impact of mediated experiences within the framework of traumatic events (13). In their professional roles, nurses often grapple with feelings of powerlessness as they witness the sorrow of patients and their families (14). Their emotional involvement deepens further when providing support to individuals facing unforeseen health crises (15). In such demanding circumstances, healthcare professionals, including nurses, typically approach patient care with a profound sense of compassion (16).

In compassion fatigue model, compassion is defined as an emotional sensitivity to comprehend the suffering of others and a shared willingness to assist them in overcoming their challenges (17). According to the professional quality of life model, individuals in helping professions, including nurses, may experience both compassion satisfaction (a positive facet) and compassion fatigue (a negative facet) due to their interactions with patients who have undergone traumatic events (18). Compassion fatigue comprises two components: secondary traumatic stress and burnout. Secondary traumatic stress pertains to the stress endured by a caregiver due to the distressing emotions arising from witnessing a patient's death, injury, or health-threatening episode (19). Conversely, compassion satisfaction entails experiencing emotional fulfillment, such as joy and satisfaction derived from applying professional nursing knowledge to aid others. It also encompasses a positive sense of accomplishment in social relationships, including interactions with colleagues (20). Compassion satisfaction can be viewed as an emotional state that mitigates the level of secondary traumatic stress, which may arise from assisting individuals exposed to traumatic incidents (18). The contentment and joy derived by nurses' act as a protective factor against the adverse effects of compassion fatigue (20) (21). Furthermore, functioning as a source of resilience, compassion satisfaction motivates nurses to persist in their work despite challenging conditions, unfavorable patient outcomes, and heightened stress levels. Serving as a defensive factor, it has the potential to reduce or even prevent burnout (22) (23).

Many studies scrutinize traumatic stress and compassion fatigue interchangeably, like investigating the correlation between compassion fatigue and burnout among emergency department nurses (24), intensive care unit nurses (25), and dependency care unit professionals (9). Conversely, certain researchers have undertaken comprehensive reviews of prior studies with the aim of distinguishing compassion fatigue from secondary traumatic stress. They postulate that compassion fatigue develops rapidly, while burnout progresses slowly and persists for a more extended period in healthcare professionals (26). Consequently, some researchers consider secondary traumatic stress and burnout as distinct and independent concepts (27) (3). Nurses consistently confront stress and encounter traumatic situations, indicating an increased susceptibility to burnout (28) (29). The prevalence of secondary traumatic stress is particularly noteworthy among professionals directly involved in patient care. Nurses, managing substantial workloads, may undergo burnout as a consequence of secondary traumatic stress, leading to reduced energy levels and various health issues (30). Recent research suggests that nurses working with patients during the COVID-19 pandemic are especially vulnerable to secondary traumatic stress, further heightening their risk of experiencing burnout (31).

The roots of compassion fatigue can be comprehended by examining individuals' reactions to life stressors (32). Regrettably, persistent compassion fatigue and secondary traumatic stress have adverse impacts on workforce health, interpersonal relationships with colleagues, and job performance (33). In clinical settings, the existence of compassion fatigue and traumatic stress poses significant risks. Nurses facing high levels of compassion fatigue demonstrate more practice errors, heightened patient mortality rates, and increased infection rates, ultimately jeopardizing patient safety and the quality of care (34) (35). The impact of compassion satisfaction and the degree of secondary traumatic stress is most conspicuous in motivating nurses to actively participate in activities related to patient safety. Elevated levels of compassion satisfaction and diminished levels of compassion fatigue indicate a stronger commitment to engaging in nursing tasks associated with patient safety (36). Consequently, the correlation between compassion fatigue,

psychological distress, and negative occupational consequences encompasses a deterioration in the quality of patient care, heightened irritability with colleagues, and an inclination to contemplate leaving one's job. Furthermore, nurses are at risk of experiencing adverse personal outcomes, such as substance misuse and suicide (8). Organizations and managers carry the responsibility of mitigating the risk of compassion fatigue in the workplace. This can be achieved by establishing a work environment that is emotionally supportive, physically secure, and respectful, ultimately reducing both intrapersonal and interpersonal stress for healthcare workers (37). Therefore, it is crucial to shed light on factors associated with compassion satisfaction, compassion fatigue and psychological distress. This approach aims to draw attention to their experiences, provide support to address their challenges, and improve the quality of care they deliver.

2. Study objective

The objectives of this study are as follows:

- 1- To evaluate the correlation between nurses' age and the level of compassion fatigue, compassion satisfaction, and secondary stress level among nurses.
2. To investigate the relationship between nurses' gender and the level of compassion fatigue, compassion satisfaction, and secondary traumatic stress among nurses.
3. To investigate the correlation between nurses' years of experience and the level compassion satisfaction, compassion fatigue, and secondary traumatic stress among nurses.
4. To examine the relationship between nurses' marital status and level of compassion fatigue, compassion satisfaction, and secondary traumatic stress among nurses.
5. To investigate the relationship between nurses' education level and the level of compassion satisfaction, compassion fatigue, and secondary stress level among nurses.
6. To investigate the relationship between nurses' current position held and the level of compassion satisfaction, compassion fatigue, and secondary stress level among nurses.

3. Method

3.1 Design

This study adopted a cross-sectional research study design to accomplish its objectives.

3.2 Participant

This study was conducted in North Jordan from October to December 2023, recruiting nurses from five public hospitals. The northern part of Jordan is home to 13 public hospitals, where approximately 3000 nurses provide healthcare services to the population. The minimal sample size for this study was calculated using specialized software for sample size calculation, with a confidence level of 95%, a margin of error of 5%, and a population proportion of 50%. The minimal sample size for the study was determined to be 341 (Calculator.net, 2022). The researcher randomly selected five hospitals from this pool and compiled a list of nurses from these hospitals. The combined list of nurses was assigned numbers, and the researcher randomly chose 500 numbers. Questionnaires were then distributed to the nurses corresponding to these numbers. The aim was to exceed the minimal sample size to account for potential missing data. The data collection process was anonymous, with nurses represented by numbers. A total of 374 questionnaires were collected, and two questionnaires were excluded from data analysis due to incomplete responses. The response rate for this study was 75%.

3.3 Instrument

The tools utilized in this research were adopted from previous studies and consist of the following:

- 1- Nurses Demographics data:

This section aimed to gather personal information about the nurses, including age, gender, education level, marital status, years of experience in nursing practice, current position held, and hospital of working.

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

It aimed to obtain information regarding nurses' level of compassion satisfaction using 10 items, assess compassion fatigue with 10 items, and additionally measure secondary traumatic stress with 10 items. Nurses responded to items evaluating their levels of compassion satisfaction, compassion fatigue, and secondary traumatic stress through a 5-point Likert scale ranging from 1 ('never') to 5 ('very often'). An increase in the number of nurse responses indicates a lower level of compassion fatigue, compassion satisfaction, and secondary traumatic stress. Scoring less than 22 represents a 'low level,' 23-41 reflects a 'moderate level,' and above 42 indicates a 'high level' on the Professional Quality of Life Scale-5 (18) (22). This valuable tool for assessing nurses' quality of life has been adopted from previous studies worldwide in healthcare settings and demonstrates its capability to assess the frequency of exposure to distressing conditions in the profession(4)(6).

4 Reliability and validity

Prior to conducting the study, a pilot study was conducted involving 50 nurses in different settings to confirm the reliability and validity of the Professional Quality of Life Scale-5. Factor analysis, utilizing principal component analysis with Varimax rotation and Kaiser Normalization, was performed. The results indicated that the items used in the health quality of life scales satisfied the criteria of factor analysis. Additionally, the results of Cronbach's reliability coefficients ranged from 0.71 to 0.92, suggesting that the Professional Quality of Life Scale met the conditions of reliability and validity.

5 Data analysis

The data analysis encompasses using SPSS version 20, to calculate descriptive statistics, mean, median, standard deviation, and person correlation, independent t-test, and ANOVA. A 372 completed questionnaires were included in data analysis; nonresponse bias was evaluated as Hair et al. (2006) suggested by compare early responded nurse answers with late nurse's response the result reveals the are no significant difference between early nurse response and late response demonstrated that the result could be generalized to all population. The normality test was assessed through using skewness and kurtosis tests. The consequences reveal that the data is following normal distribution as long as the result flooring between normal condition of skewness and kurtosis, -2 to +2, -7 to +7, respectively. The significant level for this study was assigned ($p < 0.05$)

5-1 Demographic characteristics

Descriptive statistics were conducted for the nurses, revealing that their ages ranged from 22 to 51 years old, with a mean age of 30.1 years. The nurses' years of experience spanned from 1 to 21 years, with a mean experience of 10.1 years. In terms of gender distribution, 51.6% of the study participants were female, while males constituted 48.4% of nurses. The majority of nurses were single, accounting for 56.5% of participants, followed by married nurses at 40.2%. Widowed nurses made up 3.2% of participants, with no divorced nurses. In terms of educational qualifications, the largest proportion of nurses (75.3%) held a bachelor's degree, followed by diploma nurses at 21.5%, and only 3.2% of nurses held a master's degree. Regarding their current job positions, the highest percentage of nurses were staff nurses (69.6%), while the lowest proportion (1.6%) held positions as head nurses or deputy head nurses. In terms of hospital distribution, the majority of participants (31%) were serving at Princess Basma Hospital, with only 11.3% of investigated nurses working at Al Mafraq Government Hospital. The detailed descriptive statistics of participants are presented in the 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%
Divorced	0	0%
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%

5.2 Correlation of nurses age and level of compassion satisfaction, compassion fatigue, and secondary stress level

Pearson correlation was utilized to investigate the relationship between nurses' age and dependent variables. The results showed that there was no significant correlation found between nurses' ages and compassion fatigue and secondary stress levels ($p > 0.05$). In contrast, a mildly significant correlation positive ($r = 0.41$) was noticed between compassion satisfaction and nurses' age.

5.3 Relationship of nurses' gender and level of compassion fatigue, compassion satisfaction, and secondary stress level.

The independent t-test was employed to assess the relationship between nurses' gender and the scales of compassion satisfaction, compassion fatigue, and secondary traumatic stress levels. The results of the independent t-test indicate that there is no significant relationship between nurses' gender and these scales ($p > 0.05$)."

5.4 Correlation of nurses' years of experiences' and the level of compassion satisfaction, compassion fatigue, and secondary traumatic stress level.

Pearson correlations were used to achieve the research objectives. The findings revealed a moderately positive and significant correlation between nurses' years of experience and the scales of compassion satisfaction ($r = 0.05$, $p > 0.05$). This suggests that compassion satisfaction scores increase with an increase in nurses' years of experience and vice versa. On the other hand, mildly negative correlations were discovered between years of experience and compassion fatigue, as well as secondary stress levels ($r = -0.31$, $p < 0.05$, $r = -0.35$, $p < 0.05$).

5.5 Relationship between nurses' marital status and level of compassion fatigue, compassion satisfaction, and secondary traumatic stress among nurses

ANOVA tests were conducted to evaluate the relationship between nurses' marital status and the levels of compassion satisfaction, compassion fatigue, and secondary stress. The results indicate that there is no significant relationship between nurses' marital status and the scales of compassion fatigue, compassion satisfaction, and secondary stress level.

5.6 Relationship between nurses' education level and the level of compassion satisfaction, compassion fatigue, and secondary stress level among nurses.

An ANOVA test was employed to examine the relationship between the dependent and independent variables. The results of the ANOVA test demonstrate a significant difference in mean score and compassion fatigue, compassion satisfaction, and secondary stress levels across nurses' qualifications ($p < 0.05$).

5.7 Relationship of between nurses' current position held and the level of compassion satisfaction, compassion fatigue, and secondary stress level among nurses.

An ANOVA analysis was conducted to explore the difference of mean scores of measures between nurses held various job titles. The results revealed a difference of mean scores between the nurses' current positions and the levels of compassion satisfaction, compassion fatigue, and secondary stress ($p < 0.05$).

6 Discussion

The aim of this study was to examine the correlation between nurses' personal characteristics and the levels of compassion satisfaction, compassion fatigue, and secondary stress. However, our study results did not reveal a significant relationship between nurses' ages and levels of compassion fatigue and secondary traumatic stress. On the contrary, a moderate correlation was observed between nurses' age and satisfaction, indicating that as nurses' ages increased, their levels of compassion satisfaction also rose. Our findings align with a study conducted in Saudi Arabia, which reported no significant differences in compassion fatigue and secondary stress levels among nurses of various age groups (38) (39). Furthermore, a meta-analysis reviewing 22 international studies found no correlation between nurses' ages and compassion satisfaction, burnout, and secondary traumatic stress (40). However, (41) argued that nurses' ages are a factor influencing compassion satisfaction. In contrast, our study contradicts other studies suggesting that younger nurses exhibit higher levels of compassion fatigue, secondary traumatic stress, and compassion satisfaction (4). Some studies also propose that age is a significant determinant (42). The variations in research outcomes may be attributed to the fact that nurses in different geographical locations possess distinct characteristics and interpersonal abilities for stress management, as well as effective social support systems (41)

The findings of this study indicate that there is no significant correlation between nurses' gender and marital status and the levels of compassion satisfaction, compassion fatigue, and secondary stress. This aligns with a study conducted among emergency department nurses, which similarly found no significant relationship between nurses' gender and both compassion satisfaction and compassion fatigue (43). Additionally, (40) proposed that personal and professional characteristics of nurses were not significantly associated with compassion satisfaction, compassion fatigue, and secondary stress levels. (44) proposed that male nurses effectively handle stress, while women might demonstrate higher scores of secondary traumatic stress due to their empathic ability to connect with patients and sense their fears and traumas. However, conflicting perspectives can be found in the literature, with some studies indicating a correlation between marital status and the professional quality of life scale (45). In our study, although these variables did not exhibit a significant difference in the overall professional quality of life scale, they were associated with noteworthy distinctions in specific components. The counteracting effects of these components may have equalized the observed differences in sociodemographic characteristics at the component levels across the total scale. Further investigation is recommended to delve into this aspect more comprehensively.

In this study Nurses years of experiences, qualification and current position possess are associated with compassion satisfaction, compassion fatigue, and secondary traumatic stress. The result of this study are in line with other study findings show that critical care nurses were at high risk (52.7%) for compassion satisfaction. Nurses informed significant differences in compassion fatigue on the basis of years of critical care experience (46). However, other studies pointed out only the secondary traumatic stress model was statistically significant nurses' qualifications (47) (48). This consequence of this are paralleled with the results of another study conducted in Portugal by (44) carrying out their studies in the field of nursing reported that compassion fatigue affects mostly young nurses and who had less nursing experience. Other study found that nurses with 11 to 20 years of experience had the highest compassion fatigue (2). However, the result of our study supported with others study suggesting Nurses with different position, such nurses managers, nurses supervisors had different level of compassion satisfaction, compassion fatigue and secondary stress level(49). The possible explanation could be attributed that experiences nurses has strong ability to adapt to situations, by adapting coping mechanism as well as, the career pyramid in public hospital the experienced nurses held high position such

nurses managers and supervisors and these group of nurses have high abilities to adapt strategies contribute to alleviate the fatigues and stress(50).

7 Conclusion

This study investigated factors associated to compassion satisfaction, compassion fatigue, and secondary stress levels in nurses. Several demographic and work-related characteristics were identified as significant determinants of these factors. The findings revealed a correlation between the age of nurses and compassion satisfaction. Furthermore, nurses' years of experience, educational background, and current position were identified as variable associated to levels of compassion satisfaction, fatigue, and traumatic stress. It is imperative for nursing managers to acknowledge the need for strategies aimed at enhancing job and compassion satisfaction while mitigating secondary traumatic stress, ultimately reducing burnout among nurses in Jordan. Future research endeavors should focus on identifying effective strategies to improve compassion satisfaction, implement measures to reduce secondary traumatic stress, and enhance job satisfaction as a means to proactively manage and prevent stress and fatigue-related burnout in nurses.

8 Implication for practice

Compassion fatigue and secondary stress levels can lead to various adverse consequences, encompassing physical, psychological, and social impacts such as heightened turnover intentions, patient dissatisfaction, and suboptimal care quality. It is crucial for nursing management to implement preventive measures, considering the significant role of safeguarding the well-being of healthcare workers in public health initiatives. To alleviate nurses' stress, comprehensive training on stress coping mechanisms and psychological adjustment, along with ample material and spiritual support for both nurses and their families, is strongly recommended. Leveraging seven resilience-building strategies identified in prior research could be particularly beneficial in addressing this unique situation. These strategies involve fostering social connections, promoting positivity through positive psychology approaches, capitalizing on nurses' strengths, nurturing their growth, encouraging self-care, fostering mindfulness practices, and promoting altruism. Additionally, creating a supportive work culture, implementing strategies to lower patient-to-nurse ratios, ensuring autonomous practice environments, and establishing robust nursing leadership can contribute to promoting compassion satisfaction and alleviating compassion fatigue. Education and training programs, along with peer support, represent further effective strategies that nurse leaders can employ (51) (52).

6. Limitation of the study

The current study has certain limitations, including the reliance on quantitative cross-sectional methods. The inclusion of interview schedules alongside the questionnaires could have provided a more comprehensive insight into the statistical data. Moreover, the sample, consisting of 372 nurses from public hospitals in the northern part, might not entirely reflect the diversity of nurses across Jordan.

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