



Examining the Relationship Between Compassion Fatigue and Quality of Care: The Mediating Role of Nurse Resilience

Farshid Aslani^{1*}, Marzieh Malekiha², Zahra Beigi¹

¹Department of Public Management, Payame Noor University, Tehran, Iran

²Counseling Department, Human Sciences Faculty, Hazrate Masoumeh University, Qom, Iran

Abstract

Introduction: Nursing is a relationship-cantered profession often accompanied by serious stress, affecting the quality of care and the job satisfaction of healthcare workers. This study aimed to examine the relationship between compassion fatigue and the quality of care, with a focus on the mediating role of nurse resilience at Lenjan Martyrs Hospital.

Methods: This applied descriptive research was conducted on 158 paramedics and nurses from Lenjan Martyrs Hospital in Isfahan Province in 2023.

A researcher-made demographic questionnaire, the Compassion Fatigue Questionnaire (2010), Quality of Care questionnaire (1975), and Resilience Scale (2003) were used for data collection. Finally, data were analyzed using structural equation path analysis with Smart PLS software.

Results: The results confirmed a significant direct negative relationship between compassion fatigue and quality of care. However, resilience was found to be a significant mediator in this relationship. The path coefficients from compassion fatigue to resilience and from resilience to quality of care were 0.70 ($P < 0.05$) and 0.78 ($P < 0.05$), respectively. Ultimately, a Sobel test proved the mediating effect ($Z = 9.46$, $P < 0.01$), indicating that resilience mitigates the negative impact of compassion fatigue on care quality.

Conclusion: Compassion fatigue negatively impacted the quality of care provided by nurses, such that higher levels of compassion fatigue corresponded to lower quality of care. Therefore, resilience, as a mediating variable, can play a crucial role in mitigating compassion fatigue while improving patient care behaviour.

Keywords: Compassion fatigue, Quality of health care, Resilience, Nurses

*Corresponding Author:

Farshid Aslani,
Email: f.aslani@pnu.ac.ir

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Introduction

Nursing is one of the key professions in healthcare environments. Nurses are responsible for physical and psychological care of patients and play a crucial role in their physical and psychological well-being (1). Given the significant role nurses in the efficacy of the service provided to patients, various factors can overshadow the quality of the interaction between nurses and patients over time. One of these elements is compassion (2), which refers to a fundamental kindness that includes awareness of one's own sufferings and those of others and an attempt to alleviate them. Based on this definition, the notion of compassion encompasses mindfulness and relief dimensions. The first dimension involves awareness of suffering, its causes, and sensitivity to it. In addition, the second includes the motivation and commitment to take concrete steps to alleviate the suffering one is experiencing (3). However, in the long term and under stressful conditions, compassion can lead to a kind of emotional exhaustion called the *compassion fatigue* (4),

which refers to the physical, psychological, and emotional exhaustion that is experienced by someone who cares for a sick or injured person over time (5). In caring for patients, compassion fatigue is described as a change in the caregiver's feelings and experience of helping others by observing and facing patients' devastating injuries and illnesses, which leads to self-disappointment (6). The nursing profession has a higher likelihood of compassion fatigue compared to other helping professions for several reasons. The unique job conditions and demands of nursing place individuals at greater risk. Moreover, compassion fatigue is a natural consequence of caregiving, and nursing significantly differs from other helping professions. Nurses are continuously exposed to tragic and stressful situations and frequently find it impossible to distance themselves from these sources of stress (7). The quality of care is one aspect of patient interaction that can be impacted by compassion fatigue (8). It is defined as "meeting patients' needs through purposeful care combined with appropriate communication, support,

mutual respect, and accountability” (9). The quality of care has always been a key priority for health care systems in any society, as providing patients with physical, psychological, and social care is a hallmark of high-quality nursing care (6). Despite the importance of the quality of care services in the nursing profession, nurses encounter many stressors in their daily work, including long working hours, shift rotations, patient mortality, conflicts with doctors, lack of support, and frequent exposure to patients’ painful and distressing conditions. Such challenges can overshadow nurses’ physical and mental health, ultimately impacting the quality of care provided to patients (10). Given the importance of compassion in caregiving relationships, numerous studies have explored its antecedents and consequences (11, 12), as well as factors influencing compassion fatigue in nurses and the quality of care services they provide (13, 14). According to these studies, certain personality traits and communication skills in nurses play an essential role in managing compassion fatigue (15, 16) and maintaining the quality of patient care services despite its impact (16). Resilience is one of the personality traits that can contribute to coping with stress in various situations (17). Resilience is defined as an individual’s ability to maintain biological and psychological balance in difficult situations (18). It enables individuals to recover from ongoing difficulties and repair themselves, fostering psychological stability and well-being even in the face of significant hardships (19). Additionally, this capacity enables individuals to successfully overcome adverse events and improve their social, academic, and occupational competence despite exposure to severe stress. Furthermore, resilience helps nurses to better cope with difficult work conditions and high expectations from others and to perform more effectively in stressful situations (20). In addition to its positive influence on nurses’ job performance (21), resilience can improve nurses’ quality of life and self-efficacy as well (22). The review of the literature on the consequences of compassion fatigue in clinical settings and its impact on the quality of patient care reveals that the quality of care can be affected by compassion fatigue and overshadow the quality of patient care over time (23–26). Given the role of resilience in dealing with stressful situations, some studies have examined the relationship between resilience, compassion fatigue, and the quality of care (27, 28), indicating that high levels of resilience in caregivers can mitigate the effect of compassion fatigue, affecting the quality of the relationship with patients. Based on the positive outcomes of resilience in challenging situations, resilience was selected as a mediator variable in the present study. However, the risk of compassion fatigue varies among nurses, with certain personality traits (e.g., resilience) playing a significant role in achieving better and more effective performance in stressful situations. Additionally, a review of the literature demonstrates that few studies have examined the relationship between compassion fatigue, quality of care, and resilience. Consequently, the present study aims to

explore the relationship between compassion fatigue and quality of care among nurses at Lenjan Martyrs Hospital, with resilience acting as a mediating variable. The study proposes one main hypothesis and two sub-hypotheses. The main hypothesis of the present study posits that compassion fatigue significantly affects the quality of care through the mediating role of hospital nurses’ resilience. Further, the first sub-hypothesis proposes that compassion fatigue has a significant impact on nurses’ resilience. Moreover, the second sub-hypothesis suggests that compassion fatigue directly influences the quality of care provided by nurses.

Materials and Methods

This study is descriptive-correlational and applied in nature, situated within the fields of counselling and occupational and organizational psychology. The statistical population comprises all nurses at Lenjan Martyrs Hospital in Isfahan Province in 2023 (N=158).

The inclusion criteria for this study were willingness to participate, full completion of the questionnaires, a minimum of one year of hospital work experience, and absence of any self-reported physical or psychological illness. On the other hand, the exclusion criteria included unwillingness to complete the questionnaires and incomplete responses. Given the small sample size, the entire statistical population of 158 individuals was selected as the sample using the census method. Then, a letter of introduction was obtained from the Vice President of Research at the Faculty of Management, Payame Noor University, Shahin Shahr Center, Isfahan, and presented to the Director and Manager of Nursing Services at Lenjan Martyrs Hospital in Isfahan Province to collect the data. The purpose of the research was explained to the nurses before distributing the questionnaires. In addition, consent to participate in the research was obtained from both the nurses and medical assistants. Moreover, participants were informed that providing their names on the questionnaires was optional and would not influence the organization’s evaluation process. It should be noted that data collection took place across morning, evening, and night shifts by distributing questionnaires to patients and nurses who met the inclusion criteria. Of the 158 distributed questionnaires, 7 were invalid, leaving 151 for analysis. The study was conducted after obtaining ethical approval from Tehran Payame Noor University (IR.PNU.REC.1401.62680).

In this study, the partial least squares (PLS) method was employed for data analysis, as it does not depend on assumptions such as normality of data distribution or large sample size. Additionally, this method is suitable for predictive purposes and discovery of possible relationships among variables. Furthermore, given the limitations of correlation and regression methods in identifying causal relationships between variables, structural equation modelling (SEM) was used in this study.

Demographic Characteristics Questionnaire

It was developed by the researchers and included items related to age, gender, work experience, and educational background.

Compassion Fatigue Questionnaire (2010)

This questionnaire was employed to measure levels of compassion fatigue. It is based on the Compassion Fatigue subscale of the Stamm Quality of Work Life Questionnaire (1990) and includes six items. Responses are scored on a five-point Likert-type scale ranging from 0 (never) to 5 (always). The total score ranges from 0 to 30, with higher scores indicating greater levels of compassion fatigue and lower scores suggesting less compassion fatigue. The questionnaire's reliability, determined using Cronbach's alpha, was reported by its developers to be 0.75. Based on the Drager Occupational Ethical Conflicts Questionnaire and the Job Satisfaction Questionnaire by the Smith et al, the convergent validity and divergent validity of this questionnaire were -0.75 and was 0.71, respectively (29). The questionnaire was translated into Persian by Beigi Harchegani (30), who also examined its psychometric properties. In their study, reliability was recalculated with a Cronbach's alpha of 0.81. Moreover, its divergent validity and convergent validity were -0.79 and 0.69 using the Schöffley et al Job Engagement Questionnaire and the Maslach Job Burnout Questionnaire, respectively (30). In the present study, the reliability of the questionnaire was calculated as 81%.

Quality of Care Questionnaire

In this study, the QCQ, developed by van Maanen at the Michigan State College of Nursing in 1975, was utilized to measure the quality of care (31). The questionnaire consists of 72 items and assesses nursing care quality across three dimensions: psychosocial (33 items), communication (26 items), and physical (13 items). Responses are rated on a five-point Likert-type scale ranging from 0 (never) to 4 (always). In addition, the total score ranges from 0 (minimum) to 288 (maximum). Scores are classified into unfavorable (0.89–1.89), somewhat favorable (1.90–2.63), and favorable (2.64–4) categories. Higher scores indicate higher quality of care, while lower scores suggest lower quality of care. According to the test developer, the reliability of the questionnaire, calculated using Cronbach's alpha, was 0.84 for the entire questionnaire, and 80%, 83%, and 81% for the psychosocial, communication, and physical subscales, respectively (31).

This questionnaire was first translated in Iran by Haghighi Khoshkho et al (32), and its psychometric properties were examined and adapted to Iranian culture. The 16-item version of the questionnaire, prepared by Beigi Harchegani (30), was used in this study. The reliability of the questionnaire was computed using Cronbach's alpha method, yielding a value of 85% for the entire questionnaire and 81%, 79%, and 80% for the psychosocial, communication, and physical subscales, respectively. Additionally, the divergent validity of this questionnaire with the William Dyer Job

Stress Questionnaire was reported to be -78%, while its convergent validity with the Rezaei et al's QCQ was 86% (30). In this study, the reliability of the questionnaire was recalculated using Cronbach's alpha method, resulting in a value of 82% for the entire questionnaire and 81%, 79%, and 79% for the psychosocial, communication, and physical subscales, respectively.

Resilience Scale

This scale was developed by Connor and Davidson to measure resilience (33). It consists of 25 items scored on a five-point Likert-type scale, ranging from 0 (strongly disagree) to 4 (strongly agree). The total score on the scale ranges from 0 (minimum) to 100 (maximum). Higher and lower scores represent higher and lower levels of resilience, respectively. The reliability of the scale, as reported by the creators, was estimated to be 84% using Cronbach's alpha. Additionally, the scale's convergent validity and divergent validity were 85% and 80% based on the Ryan and Frederick Vitality Questionnaire and the Beck Depression Inventory, respectively (33). This scale was first translated into Persian by Besharat (34), and its psychometric properties were validated in the Iranian context. The convergent validity of the scale with the Psychological Well-Being Questionnaire was 87%, while its divergent validity with the Psychological Vulnerability Questionnaire was -79% (34). In this study, the Cronbach's alpha coefficient for the scale was calculated to be 83%.

Results

The results of the descriptive statistics indicated that 79 participants (52.3%) were female, and 72 participants (47.7%) were male. Regarding age, 30 (20%), 72 (48%), and 48 (32%) participants were aged 25–30, 31–35, and 36 years old or older, respectively. In terms of work experience, 62 participants (41%) had less than 10 years of experience, 56 participants (37%) had between 10 and 20 years, and 33 participants (21%) had more than 20 years. As regards educational qualifications, 14 (9.3%), 50 (33.3%), 71 (47%), and 16 (10.6%) participants had a diploma, an associate degree, a bachelor's degree, and a master's degree or higher, respectively. Table 1 provides the means and standard deviations (SD) of the research variables. According to the findings, the compassion fatigue variable had the highest mean, while resilience had the lowest mean.

Fornell and Larcker's criterion for validity is that the average variance extracted (AVE) should exceed 0.5, indicating that a latent variable can, on average, explain more than half of the variance of its indicators. The AVE values for the latent variables were all greater than

Table 1. Mean and Standard Deviation of Research Variables

Variable	Mean	Standard Deviation
Compassion fatigue	3.44	0.9985
Quality of care	3.41	1.0985
Resilience	3.39	1.1012

0.5 (Table 2). Therefore, the convergent validity of the measurement models was satisfactory. Furthermore, in this study, Cronbach's alpha coefficient and composite reliability coefficient were used to assess the reliability of the questionnaire. The Cronbach's alpha coefficients for all variables in this study exceeded the minimum acceptable value of 0.70.

Unlike Cronbach's alpha, which implicitly assumes that each indicator has equal weight, composite reliability relies on the true factor loadings of each construct and, therefore, provides a better measure of reliability. Composite reliability should achieve a value greater than 0.07 to represent internal consistency of the construct.

Table 3 also presents the divergent validity of the research model. Divergent validity assesses the extent to which a construct is empirically distinct from other constructs. This validity is evaluated at the indicator level and the latent variable level. At the indicator level, cross-loadings are used to measure divergent validity. For this purpose, the loading of an indicator on its corresponding construct must be greater than its loadings on any other construct. The Fornell-Larcker criterion is applied at the latent variable level. According to this criterion, the square root of the AVE of each latent variable must exceed the highest correlation of that construct with any other construct in the model. This implies that the square root of the AVE values for the latent variables, located in the cells on the main diagonal of the correlation matrix, must be greater than the correlations between constructs, which are displayed in the lower left cells of the matrix. The rationale behind this criterion is that a construct should share more variance with its own indicators than with other constructs. The results (Table 3) demonstrated that all the latent variables in the study enjoyed acceptable divergent validity.

SEM was employed to analyze and test the model in this study. It is a statistical method used to examine linear relationships between latent (unobserved) and manifest (observed) variables. In other words, SEM is a robust statistical technique that integrates a measurement model (confirmatory factor analysis) and a structural model (regression or path analysis) into a single, simultaneous statistical test. Using this approach, researchers can either

reject hypothesized models or confirm their fit to the data (Figures 1 and 2).

The relationships between the latent variables in the study has been analyzed in the internal model section. The first criterion for evaluating the internal model is to assess the non-collinearity of the variables, which is determined using the variance inflation factor (VIF). A variance inflation factor value greater than 5 indicates collinearity among the variables. The non-collinearity condition was satisfied for all variables (Table 4).

The Sobel test was used to evaluate the mediating role of resilience in the relationship between compassion fatigue and quality of care.

$$Z_{value} = \frac{a \times b}{\sqrt{(b^2 \times S_a^2) + (a^2 \times S_b^2) + (S_a^2 \times S_b^2)}} = 9.46$$

a: Path coefficient (factor loading) between predictor and mediator variables = 0.70

b: Path coefficient (factor loading) between mediator and criterion variables = 0.78

Sa: Standard deviation of the path between predictor and mediator variables = 0.06

Sb: Standard deviation of the path between mediator and criterion variables = 0.048

The Z-value was 9.46, which exceeds the critical threshold of 1.96, confirming the mediating effect of resilience in the relationship between compassion fatigue and quality of care. Based on the Sobel test, it is evident that compassion fatigue impacts the quality of care through the mediating role of resilience, with a critical value of 9.46. Specifically, compassion fatigue has a direct and significant negative impact on the quality of care.

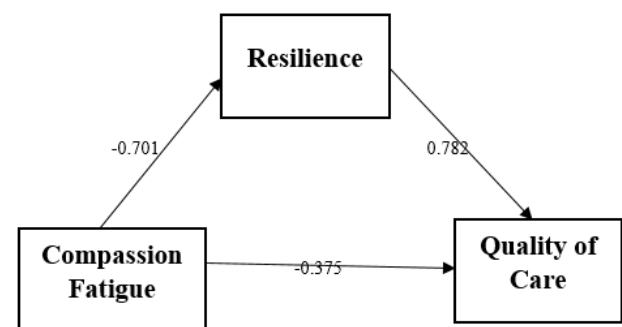


Figure 1. The Final Structural Model of Research Based on the Conceptual Model With the Significance Level Values of Path Coefficients

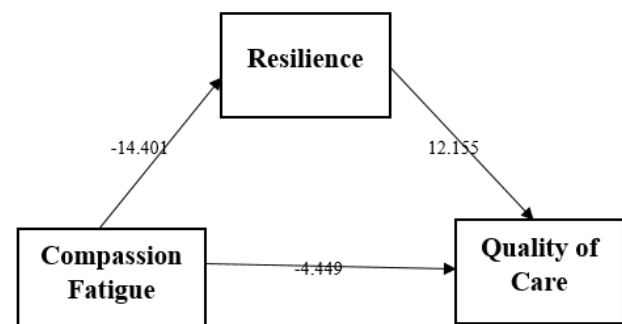


Figure 2. Final Structural Model of Research Based on the Conceptual Model With Critical Values (T-Statistics)

Table 2. Convergence, Composite Reliability, and Cronbach's Alpha Values for Variables

Variable	Composite Reliability	Cronbach's Alpha	AVE (Convergence)
Compassion fatigue	0.878	0.832	0.550
Quality of care	0.896	0.869	0.510
Resilience	0.945	0.938	0.590

Table 3. Examination of the Divergent Validity of the Research Model

Variable	Resilience	Compassion Fatigue	Quality of Care
Resilience	0.69		
Compassion fatigue	0.701	0.742	
Quality of care	0.897	0.669	0.700

However, when resilience is introduced as a mediator, the negative effect of compassion fatigue is mitigated, and its influence becomes positive.

The third criterion for model evaluation involves calculating the goodness-of-fit (GOF) index for the model in PLS. Unlike covariance-based methods, there is no universal index for overall model evaluation in SEM using the PLS method. Nonetheless, the GOF index has been proposed as a measure of overall model performance, taking into account both the measurement and structural models ranging from 0 to 1. In this study, the GOF index for the model was estimated as 0.465, indicating strong overall model fit (Table 5).

Discussion

This study examined the relationship between compassion fatigue and the quality of care among nurses, with resilience as a mediating factor. The findings revealed that compassion fatigue negatively influenced the quality of care provided by nurses, indicating that higher levels of compassion fatigue were associated with a lower quality of care and vice versa. However, the incorporation of resilience improved the overall outcomes, as resilience positively impacted the quality of care, which aligns with the findings of some previous studies in this field (32, 35).

The results demonstrated a significant negative relationship between compassion fatigue and the quality of care, suggesting that the quality of patient interactions and clinical performance of nurses diminishes as they experience higher levels of emotional and physical exhaustion from their caregiving roles. This finding is consistent with a large body of literature. For instance, Cavanagh et al synthesized data from multiple studies and concluded that compassion fatigue is a strong predictor of negative care outcomes, including reduced empathy and increased clinical errors (24). Our study reaffirms this critical link within the specific context of an Iranian hospital.

Our model demonstrated that while compassion fatigue directly predicts lower care quality, its effect is significantly buffered by resilience. This implies that nurses with higher resilience are better equipped to handle the stressors that cause compassion fatigue, thereby maintaining a

higher quality of care despite the pressures of their work, which conforms to the findings of Labrague et al. They conducted a cross-sectional study during the coronavirus disease 2019 pandemic and found that resilience not only had a direct positive effect on the quality of care but also mediated the negative effects of compassion fatigue on nurses' work outcomes (27).

In explaining this research finding, resilience serves as a coping strategy that not only mitigates compassion fatigue and its negative consequences but also influences an individual's cognitive beliefs, leading to a shift in the perception of problems and stressors arising from challenging situations. In other words, resilience directly enhances psychological capital by shaping cognition, thereby improving an individual's behavioral responses to stress. From a cognitive perspective, resilience also plays a crucial role in altering the core beliefs about stress, preventing negative chain reactions, boosting self-esteem, and fostering openness to new experiences. Therefore, this coping strategy is not only effective in preventing compassion fatigue but also reduces the process of experiencing burnout. In the behavioral dimension, resilience can also improve the quality of care. Analysis of the process of decreasing the quality-of-care behavior shows that the creation and development of negative cognitions centered on the futility and unrewardedness of the behaviour being performed is a prelude to the formation of other negative cognitions; Discouragement and a decreased level of commitment are two of the strong correlates of this group of beliefs (25). Accordingly, resilience is indirectly effective in the health-promoting behaviors of the individual (stress control and interpersonal relationships), which can not only effectively create and develop compassion fatigue but can also affect the creation of satisfaction with compassion (32). Thus, preventing the creation and development of compassion fatigue are cognitive consequences, and increasing the quality of care is a behavioural result of resilience.

Conclusion

In summary, nurses, who are in direct contact with patients, play a pivotal role in the patient care process and enhancement of the quality of healthcare services. In addition, the quality of care provided by nurses is a critical component in the health and medical services sector. Moreover, the quality of care is a multifaceted phenomenon that is influenced by different factors, such as workplace conditions, individual and personality traits, as well as primary and secondary stressors. The consequences of compassion fatigue extend beyond the individual, impacting the organization as well. Developing strategies that focus on fostering resilience among healthcare workers, particularly nurses, can play a crucial role in preventing the onset and proliferation of compassion fatigue while enhancing the quality of patient care. Accordingly, future research is encouraged to design and implement programs and strategies that are tailored to promote resilience among healthcare professionals.

Table 4. Results of Collinearity Indices

Variable	VIF
Compassion fatigue	1.762
Resilience	2.601
Quality of care	1.793

Note. VIF: Variance inflation factor.

Table 5. Shared Values

Variable	Shared Values	Coefficient of Determination
Compassion fatigue	0.373	0.465 = GOF
Resilience	0.344	
Quality of control	0.409	
Variance	0.375	

Additionally, it is recommended that in-service training programs incorporate structured and practical resilience-building modules specifically designed for workers in this field. Similar to other studies, this study faced certain limitations. The reliance on a questionnaire as the sole data collection tool was one such limitation. Furthermore, although the study was conducted in the post-coronavirus disease 2019 era, the lingering fatigue and pressures of the pandemic on medical staff were still apparent, which may have influenced their responses.

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Authors' Contribution

Conceptualization: Farshid Aslani.
Data Curation: Zahra Beigi.
Formal Analysis: Farshid Aslani.
Funding Acquisition: Marzieh Malekiha.
Investigation: Zahra Beigi.
Methodology: Farshid Aslani.
Project Administration: Farshid Aslani.
Resources: Zahra Beigi.
Software: Farshid Aslani.
Supervision: Farshid Aslani.
Validation: Zahra Beigi.
Visualization: Zahra Beigi.
Writing—Original Draft: Marzieh Malekiha.
Writing—Review & Editing: Farshid Aslani, Marzieh Malekiha, Zahra Beigi.

Competing Interests

The authors have no conflict of interests to report.

Ethical Approval

Informed consent was obtained from all participants, and they were allowed to withdraw from the study at any stage. In addition, confidentiality and privacy were ensured by omitting participants' first and last names from the questionnaires, and no financial costs were imposed on participants. Finally, the study was conducted after obtaining ethical approval from Tehran Payame Noor University (IR. PNU.REC.1401.62680).

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