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Original Article

Compassion Satisfaction and Fatigue in Cardiovascular Nurses: A Cross-sectional Descriptive Study

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Abstract

Background: Cardiovascular nurses play a key role in improving the treatment outcomes in patients. Compassion satisfaction and fatigue influence the quality of nursing care. Thus, it is important to examine the levels of compassion satisfaction and fatigue in cardiovascular nurses. This study was performed to determine compassion satisfaction and fatigue in cardiovascular nurses. **Materials and Methods:** This cross-sectional, descriptive study was conducted with a single-stage design on 200 cardiovascular nurses who were randomly selected from among nurses working in four educational hospitals in Isfahan, Iran, in July–October 2018. Data collection was conducted using the Professional Quality Of Life Scale (version 5) (ProQOL- version 5) with 30 items in the three subscales of compassion satisfaction, burnout, and Secondary Traumatic Stress (STS). The results were analyzed using descriptive and inferential statistics in SPSS software. **Results:** The results indicated the high mean (SD) score of 41.39 (5.54) for compassion satisfaction and the moderate mean (SD) scores of 26.93 (4.62) and 26.69 (5.90) for burnout and STS, respectively, in more than two-thirds of the nurses. Pearson correlation coefficient showed no significant relationship between the nurses' age, level of education, work experience, and monthly working hours and scores of compassion satisfaction, burnout, and STS, and total compassion fatigue score ($p > 0.05$). Work experience was directly related to STS score (r = 0.18, $p = 0.01$). However, it had no significant relationship with compassion satisfaction and burnout ($p > 0.05$). **Conclusions:** The results showed that the score of compassion satisfaction was high and fatigue was moderate in the cardiovascular nurses. Further research seems necessary to enhance compassion satisfaction and reduce fatigue in nurses.

Keywords: *Cardiovascular system, empathy, fatigue, Iran, nurses*

Introduction

Nurses are among the key members in health care groups that play a significant role in the development of care, treatment, improvement, and promotion of patients' health.[1] Nursing is a care profession and its essence is to help others.[2] Nurses play a supportive role for patients experiencing pain, disability, and even death.[1] A passionate approach to helping more patients can lead to uncontrolled and chronic occupational stress.[2] Nurses are exposed to different stressors[3]; thus, the risk of stress and other related variables such as compassion fatigue is high in nurses.[1]

Compassion is one of the moral phenomena that nurses are involved in the daily care they provide for patients. Compassionate care is an important part of nursing care and is an essential part of patient-centered care.[4] Compassion satisfaction is a positive aspect of caring for others and is contrary to compassion.[5] It is defined as the positive feeling of being able to relieve the confusion of others and satisfaction with the ability to perform one's job correctly.[6] Compassion satisfaction enables nurses to enjoy their work by helping others.[5] This feature improves the quality of care and is associated with the satisfaction of patients.[7] Sung *et al.* mentioned in their essay that Joinson first described the concept of compassion Fatigue in nurses in 1992.[8] He stated that the caring relationships of nurses with patients led to exhaustion and fatigue in nurses.[8] Compassion fatigue is caused by stress from helping people in need or seeing people who are prone to trauma and suffering repeatedly.[8] Compassion fatigue is recognized as an adverse physical or psychological disorder in nurses[9] that results in the loss of the ability to provide

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high-quality nursing care.[4] Compassion fatigue includes burnout and Secondary Traumatic Stress (STS).[5] Burnout consists of the three components: fatigue, pessimism, and loss of self-efficacy.[10] Moreover, it is often associated with symptoms such as emotional exhaustion, irritability, disappointment, pessimism,[5,10] and indifference, which decrease both the quality of care and patient satisfaction.[11] STS is the consequence of constant exposure to the suffering of others and not the result of a person's direct exposure to an accident.[12] STS is a negative feeling of fear as well as occupational-related injuries.[11] The main symptoms of stress include disturbing thoughts, irritability, sleep problems, and fear that affect the quality of care provided to patients.[13,14] The role of cardiovascular nurses and the nursing of patients in poor health are of great importance. With regard to the high prevalence of mortality and morbidity due to cardiovascular diseases, and consequently, the social and economic burden of these diseases, the World Health Organization (WHO) and medical institutions underline the promotion of the quality of care for cardiovascular patients to achieve general health.[15] The previous studies have shown that nurses who work in overly stressful conditions are more prone to mental and physical exhaustion.[16] Nurses who work in these sectors face environmental stress, high workload, resource constraints, lack of managerial support, and difficult care conditions for patients, which affect the nursing care process and can jeopardize the quality of nursing care. Numerous studies have been performed on compassion satisfaction and compassion fatigue in nurses worldwide. Hunsaker *et al*., in a nonexperimental and descriptive study, showed that the score of fatigue was low and moderate in terms of compassion and burnout, respectively, and was high in terms of job satisfaction in emergency department nurses. Furthermore, low level of support from managers predicted a high score of burnout and fatigue, and high level of compassion and support from managers predicted a high score of satisfaction in emergency department nurses.[17] Van Mol *et al*. showed, in a systematic review of compassion fatigue, that the prevalence of compassion fatigue had been reported as about 7% and 40% in 2 studies.[9] Mohammadi *et al*. also indicated that fatigue in nurses was a matter of compassion toward patients and there was a significant relationship between compassion-related fatigue and variables like age, sex, number of years of service, and type of ward.[18] Many studies have been undertaken in different parts of the world to determine compassion satisfaction and fatigue in nurses, but, in Iran, very few studies have been conducted in this field and no studies have been conducted in this regard on cardiovascular nurses.

Nurses play a significant role in restoring patients' well-being. Thus, taking measures to evaluate key psychological variables in nurses, patients, and health care organizations is of great importance. Therefore, the present study was conducted to determine compassion satisfaction and compassion fatigue in cardiovascular nurses.

Materials and Methods

This cross-sectional, descriptive study was conducted with a single-stage design on 181 nurses in July–October 2018. With a significance level of 5%, test power of 80%, and precision of 0.10, and considering a reduction of 10%, the sample volume was calculated as 200 individuals using a formula and using simple random sampling. After labeling the nurses with special codes, 200 nurses were selected randomly from the entire population of 319 nurses and were entered into the study. However, 19 cases were excluded from the study for not filling the questionnaire form. Finally, the data related to the remaining 181 cases were analyzed.

The instrument used in this study was a questionnaire consisting of two parts. The first part was a demographic characteristics' form including questions on related occupational factors such as age, gender, work experience in the cardiac ward, educational level, marital status, organizational status, nursing experience, work shift, and monthly working hours. The second part of the questionnaire was the Professional Quality Of Life Scale (version 5) (ProQOL- version 5) designed and revised by Stamm.[5] The ProQOL-version 5 includes 30 items in the three subscales of compassion satisfaction, burnout, and STS, each with 10 items. The items are scored on a 5-point Likert scale ranging from 1 (never) to 5 (very often) based on one's own opinions and feelings repeated in the last 30 days. In all subscales of the ProQOL- version 5, scores of 22 and below, 23–41, and 42 and above represent low, intermediate, and high compassion satisfaction, respectively.[5] In the study by Mokhtari *et al*., exploratory factor analysis was used to determine the validity of the ProQOL- version 5. Through exploratory factor analysis, three factors were extracted that explained 42.44% of the total variance.[19]

In the study by Pashib *et al*., the validity of the ProQOL- version 5 was determined using content validity method, and its reliability was determined using Cronbach's alpha coefficient. The reliability of the subscales of compassion satisfaction, burnout, and secondary stress was, respectively, 0.82, 0.80, and 0.74.[6] To determine the distribution of the frequency of demographic characteristics in the studied units, descriptive statistics such as number, percentage, mean, and standard deviation were used. In order to determine the mean of compassion satisfaction and compassion fatigue in the studied units, descriptive statistics of mean and standard deviation were used. Furthermore, in order to determine the relationship of compassion satisfaction and compassion fatigue with the demographic characteristics of the participants, one-way ANOVA and Pearson correlation coefficient were used in

SPSS software (version 21, IBM Corporation, Armonk, NY, USA).

Ethical considerations

The Ethics Committee of Isfahan University of Medical Sciences, Isfahan, Iran, approved this study with the number IR.MUI.RESERCH.REC.1397.329. After observing ethical codes, consent forms were obtained from the subjects under study and they were assured that the data obtained would not be used in another study.

Results

Among the participants, 77.30% were women and 90.10% of cardiovascular nurses held a nursing degree. In addition, 74.60% of the nurses were married, 39.20% had a work experience of 5–10 years, and 65.20% had monthly working hours of 150–200 h. The results showed that the compassion satisfaction score was high in about 52% of nurses, burnout score was moderate in about 81% of them, and STS score was moderate in about 71% of them [Table 1].

The mean (SD) score of compassion satisfaction, burnout, and STS was, respectively, 41.39 (5.54), 26.93 (4.62), and 26.69 (5.90). Furthermore, the total mean (SD) score of compassion fatigue was 53.61 (8.90). Pearson correlation coefficient showed no significant relationship between the nurses' age, level of education, overall work experience, monthly working hours, and monthly salary and scores of compassion satisfaction, burnout, and STS, and total score compassion fatigue ($p > 0.05$). There was a direct correlation between nurses' work experience in the cardiac ward and the STS score ($p = 0.01$). However, there was not a significant relationship between compassion satisfaction, burnout, and total compassion fatigue score ($p > 0.05$) [Table 2]. In addition, Pearson correlation coefficient showed that compassion satisfaction had a negative relationship with burnout, STS, and total compassion fatigue score ($p < 0.001$) [Table 3].

Table 1: Level of compassion satisfaction, burnout, and secondary traumatic stress in cardiovascular nurses

Variable	Level	*N* (%)
Compassion satisfaction	Low	0 (0)
	Moderate	87.00 (48.10)
	High	94.00 (51.90)
Burnout	Low	34.00 (18.80)
	Moderate	147.00 (81.20)
	High	0 (0)
Secondary traumatic stress	Low	51.00 (28.20)
	Moderate	129.00 (71.20)
	High	1.00 (0.60)

Discussion

The results of this study indicated that the score of compassion satisfaction was high in more than half of the cardiovascular nurses, and the score of compassion fatigue including job burnout and STS was moderate in more than two-thirds of them. The previous studies on Iranian nurses have shown the prevalence of compassion fatigue, burnout, and STS in critical care nurses,[18,20] psychiatric nurses,[3] Iranian nurses,[1] healthcare professionals in intensive care units (ICUs),[1] and cardiovascular nurses.[14] In Australian ICU nurses,[10] cardiovascular nurses,[14] and emergency department nurses,[17,21] the compassion satisfaction level was high, which is consistent with the present study. In order to explain these findings, it can be noted that compassion fatigue in nurses is due to their caring relationships with patients, frequent exposure to patients' trauma and suffering, high workload, and long working hours.[2,8] Also Jakimowicz *et al*. agree with Figley's statement that considers compassionate care and emotional involvement as risk factors of compassion fatigue in people in health care professions.[10] Salimi *et al.* reported a high score of compassion fatigue in critical care nurses, whereas in the present study, compassion fatigue in nurses was moderate.[20] This difference might be due to the nurses' different work environments. Critical care nurses face difficult conditions in the ward due to the physical and emotional pain of their patients and their families. In fact, critical care nurses must provide patients and their families with physical and emotional support. These conditions that require constant empathy cause fatigue.[22] In the present study, the score of compassion satisfaction was reported as high in more than half of the nurses. However, in the study by Pashib *et al*., the score of compassion satisfaction was moderate in clinical nurses.[6] The discrepancy between the present study and the pilot study is probably due to differences in culture,

Table 2: Correlation coefficients of compassion satisfaction, burnout, secondary traumatic stress, and total compassion fatigue scores with different demographic and occupational factors in cardiovascular nurses

Variable	Compassion satisfaction score		Burnout score		Secondary traumatic stress score		Total compassion fatigue score	
	r	*p*	*r*	*p*	*r*	*p*	*r*	*p*
Age	0.04	0.56	-0.02	0.80	0.03	0.70	0.01	0.90
Education	-0.03	0.68	0.04	0.59	-0.02	0.82	0.01	0.89
Work experience in the cardiac ward	-0.01	0.87	0.03	0.72	0.18	0.01	0.11	0.13
Total work experience	0.001	0.99	0.05	0.54	0.10	0.20	0.07	0.37
Monthly working hours	-0.03	0.66	0.03	0.70	-0.10	0.19	-0.03	0.67

Table 3: Correlation coefficients of compassion satisfaction score with burnout, secondary traumatic stress, and total compassion fatigue scores in cardiovascular nurses

Variable	Compassion satisfaction score	
	r	*p*
Burnout score	-0.51	<0.001
Secondary traumatic stress score	-0.27	<0.001
Total compassion fatigue score	-0.46	<0.001

management decisions, and individual characteristics of the population under study. Compassion satisfaction is the joy of caring for and helping people and depends on the care methods used in health systems, good relationships with colleagues, self-esteem, and mental stability.[5]

In this study, Pearson correlation coefficient showed no significant relationship between nurses' age, level of education, overall work experience, and monthly working hours and compassion satisfaction, burnout, and STS scores and total compassion fatigue score. There was a direct correlation between cardiovascular nurses' work experience and STS score; however, it had no significant relationship with compassion satisfaction and burnout. In the study conducted in Australia by Griffiths *et al*., they found that the level of education and work experience were significantly correlated with compassion satisfaction, burnout, and secondary traumatic stress. However, age and marital status had no significant relationship with the mentioned variables.[23] In the study by Griffiths *et al*., higher work experience in nurses led to increased burnout and compassion satisfaction.[23] This inconsistency could be due to differences in organizational culture, lifestyle, and work structure and rules. Duarte, in a survey conducted among nurses in general hospitals in Portugal, showed that there was no significant relationship between age and compassion satisfaction and compassion fatigue scores,[24] which is consistent with the present study results. In a cross-sectional study that compared the quality of professional life of emergency department nurses with that of nurses from three other specialized departments (special care, nephrology, and oncology), Hooper *et al*. showed no significant relationship between the level of education and the three subscales of compassion satisfaction, burnout, and STS.[25] This finding is consistent with that of the present study. Zhang *et al*., in a meta-analysis on 11 studies, found that demographic variables were not significantly correlated with compassion satisfaction and compassion fatigue,[26] which is consistent with the present study. Mohammadi *et al*. conducted a study in South Khorasan and showed that fatigue in nurses was due to compassion for patients and there was a significant relationship between compassion-related fatigue and variables such as age, gender, and number of years of service.[18] These findings were consistent with those of the current study. The findings of the study by Mohammadi *et al*. are not in line with the present study, which is probably due to a different compassionate fatigue assessment method used. Mohammadi *et al*. used the Compassion Fatigue/Satisfaction Self-Test (CFS) designed by Figley to assess compassion fatigue, while the present study used the ProQOL- version 5 designed by Stamm, which have different scoring methods. The findings of the present study suggest that cardiovascular nurses have STS due to frequent long-term exposure to the suffering of cardiovascular patients. It can also be noted that independent demographic and work-related variables such as level of education, professional background, weekly working hours, and management support are effective factors in enhancing compassion satisfaction or fatigue.[17]

The present study results showed that compassion satisfaction score had a negative relationship with compassion fatigue score. Ebrahimpour *et al*. also stated that the symptoms of post-traumatic stress had a positive relationship with burnout dimensions and STS.[27] However, they had a negative relationship with compassion satisfaction score. After eliminating the effects of variables such as age, work experience, interest in work, and the previous experience of traumatic events, the correlation between the two main variables was significant.[27] This was similar to the results of the present study. Zhang *et al*. showed that compassion satisfaction had a negative relationship with job stress.[26] Yom and Kim reported that compassion fatigue has a significant effect on burnout, compassion satisfaction has a reverse relationship with burnout, and compassion satisfaction is effective in reducing compassion fatigue.[28] These findings are consistent with the current study. In explaining these findings, it can be pointed out that compassion satisfaction is a positive aspect of caring for and helping others, and compassion fatigue is a negative aspect of working as a helper. When there is a high score of compassion satisfaction, there is less risk of compassion fatigue.[5,12]

In nursing, there are different types of stressors and negative factors that reduce compassion satisfaction and increase compassion fatigue and burnout. One of the most important findings of the present study was the high score of compassion satisfaction among cardiovascular nurses. Although caring for and helping others can have negative outcomes, nurses enjoy taking care of their patients, which results in their self-sufficiency, empowerment, and encouragement. One of the limitations of this study was that the participants were limited to four hospitals. Therefore, the results must be interpreted with caution and should not be generalized to all cardiovascular nurses.[29]

Conclusion

The results of this study showed that the score of compassion satisfaction was high and compassion fatigue was moderate in cardiovascular nurses. Increased compassion satisfaction and reduced compassion fatigue in nurses ultimately increase satisfaction in nurses and patients. Further research

seems necessary to enhance compassion satisfaction and reduce compassion fatigue in nurses.

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Conflicts of interest

Nothing to declare.

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