The Relationship between Spiritual Intelligence and Fatigue and Moral Distress in Emergency Nurses: A Cross-Sectional Study

Abstract

Background: Emergency nurses face various challenging conditions and many moral distress that may associated with fatigue from providing care. The spiritual intelligence of nurses has been found to have an impact on the quality of care. This study aimed to investigate the relationship between the spiritual intelligence of emergency nurses with fatigue from providing care and moral distress in emergency nurses. Materials and Methods: This descriptive-analytical cross-sectional study was conducted on 200 nurses working in the emergency departments of hospitals in Semnan and Sabzevar, who were selected by stratified random method. They were asked to complete the spiritual intelligence, nurse fatigue scale, and moral distress questionnaire through self-reporting. The data were analyzed using SPSS 26 and Amos software, path analysis, and correlation tests. Results: An increase in spiritual intelligence leads to a significant reduction in moral distress (p = 0.01) and fatigue from caregiving (p = 0.001). In contrast, an increase in moral distress leads to a considerable increase in fatigue from caregiving (p = 0.001). Conclusions: The results showed that spiritual intelligence has an inverse relationship with moral distress and fatigue from providing care. Moral distress has a direct relationship with fatigue from providing care. Therefore, interventions in the field of increasing spiritual intelligence and reducing moral distress and fatigue from providing care are recommended.

Keywords: Burn out, fatigue, moral distress, nurse, path analysis, spiritual intelligence

Introduction

Proper clinical care in emergency departments is paramount for various reasons, such as handling many patients and performing multiple complex procedures quickly.^[1] Nurses in all emergency departments of different hospitals are known to be initially enthusiastic, committed, and passionate about their job but after a while due to facing a lot of difficulties and job stresses in the work environment often experience fatigue and may even consider leaving their job.^[2] Nurses are recognized as a group at high risk of fatigue from providing care and job burnout due to strenuous working conditions.^[3,4] Emergency nurses are often unaware or consciously involved in ethical situations and decisions^[5] experiencing conditions that lead to ethical challenges, one of which is moral distress (inability to perform the correct action despite knowledge of its correctness).[6]

Moral distress has been defined by emergency nurses as one of the hidden job challenges in terms of frequency and intensity.^[7] Many nurses describe job dissatisfaction, apathy, and indifference toward issues related to the patient welfare as their response to moral distress.^[8] Some nurses, despite their inclination, gradually withdraw from providing care to patients due to the prevailing conditions and become exhausted and frustrated in delivering care.^[9] Fatigue of providing care can decreased work performance, physical and behavioral changes, a reduction in the quantity and quality of services provided to patients, and ultimately dissatisfaction with nursing services.^[10] This phenomenon can gradually lead to emotional exhaustion, causing the individual to become apathetic and indifferent toward patients; eventually lead to burnout, with the costs borne primarily by the patients and, subsequently, the organizations.^[11] Preventative measures can address this issue, and more than logical and emotional intelligence may be required. Instead, a type of intelligence conventional types (spiritual bevond

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intelligence) must be employed. The highest aspect of human intelligence is spiritual intelligence, which researchers consider the most important due to its ability to influence changes in individuals, communities, and cultures. Spiritual intelligence encompasses our beliefs and convictions, including serious questions about where we come from, where we are headed, and what the primary purpose of life is.^[12,13] Spiritual intelligence increases an individual's flexibility in dealing with life's difficulties and hardships,^[14] enabling them to approach problems with more compassion and empathy, exert more significant effort in finding solutions, endure the challenges of life better, adapt more quickly to their environment, and become more dynamic and proactive in their lives.^[15] Recently, studies have shown the significant impact of spiritual intelligence on individual and organizational performance.^[16]

Given that one of the essential roles of nurses is their caregiving role, which cannot be ignored when dealing with individuals in need, and the special conditions of emergency departments with high workload, patient volume, and subsequently, the exposure of emergency nurses to various challenging situations and moral distress, which may lead to job burnout and fatigue in providing related care.^[4] Moreover, the conditions created due to moral distress and fatigue in care provision can affect the nurse-patient relationship and the quality of care. Therefore, identifying the predictive factors and consequences of spiritual intelligence, moral distress and fatigue in care provision seems necessary to plan and implement preventive measures based on the effectiveness and susceptibility of each variable in the work environment. Spiritual intelligence can be one of the main factors affecting the quality of nursing care. Since no research has been conducted on the relationship between spiritual intelligence, moral distress and fatigue in care provision, this study aimed to investigate the relationship between the spiritual intelligence of emergency nurses with fatigue from providing care and moral distress in emergency nurses.

Materials and Methods

The present study used a cross-sectional analytical descriptive design to investigate the relationship between the spiritual intelligence of emergency nurses as the independent variable and moral distress and fatigue in providing care as the dependent variables, using a path analysis model. The research population comprises all emergency nurses in university hospitals affiliated with Semnan and Sabzevar Medical Sciences Universities, Iran, from September 2022 to March 2023. Inclusion criteria were nurses who have at least minimum diploma degree and at least three months of work experience in the emergency department, while exclusion criteria were experiencing severe stress (e.g. due to the death of a loved one, divorce, or a severe accident) in the past six months or unwillingness to complete the questionnaire. In this

research, a stratified random sampling method was used. Each hospital was considered a stratum, and the necessary sample size was allocated to each hospital according to the number of employed nurses, followed by a simple random sampling of nurses. Some studies consider a sample size of 200 acceptable for descriptive path analysis research.^[17] Thus, a total of 200 nurses were recruited for the study. The research instruments used in this study were:

- The Badi'i Spiritual Intelligence Questionnaire.
- The Nurse Fatigue Scale questionnaire.
- The Moral Distress Scale-Revised questionnaire.
- A demographic information questionnaire.

Badii's Spiritual Intelligence Questionnaire (SIQ)

The questionnaire consisted of 42 items and aimed to assess the components of spiritual intelligence, including general and belief-based thinking, coping and interacting with problems, self-awareness, love and interest, and attending to moral values. It is noteworthy that Badie et al. (2010) utilized two methods, namely Cronbach's alpha and test-retest, to calculate the reliability of the Spiritual Intelligence Questionnaire. The obtained values were 0.85 and 0.78 for the entire questionnaire, respectively, indicating acceptable reliability.^[12] In our study, we also used Cronbach's alpha coefficient to measure internal consistency, and the internal consistency coefficient was found to be 0.871. Moreover, to determine the validity of the questionnaire, we correlated the total score with the score of criterion-related questions. The results indicated a significant positive correlation (r = 0.55), demonstrating the appropriate validity of the Spiritual Intelligence Questionnaire.

The questionnaire for measuring nurses' fatigue scale

The present questionnaire comprises 21 items and measures different dimensions (cognitive-mental, emotional-affective, and physical-behavioral factors). In the study conducted by Rassouli et al.,[18] confirmatory factor analysis results were used to investigate the factorial validity of this scale, revealing that this questionnaire with three subscales, namelv cognitive-mental, emotional-affective, and physical-behavioral, had an acceptable level of validity. The correlation between the scores of the nurse fatigue scale and the criterion measure of visual fatigue (a benchmark scale) was found to be (r = 0.793). To assess the reliability of this scale, Cronbach's alpha was used (0.877), indicating the excellent reliability of this instrument. Furthermore, the internal consistency of this scale was evaluated using Cronbach's alpha coefficient, which resulted in a value of 0.928.

Revised Moral Distress Scale (MDS-R) questionnaire

The initial Moral Distress Scale (MDS) questionnaire was developed by Corley *et al.*^[19] with 38 items. Subsequently, the revised MDS-R questionnaire was designed and evaluated by Hamric *et al.*^[9] for nurses, which contains 21

items. Cronbach's alpha was used to ensure the reliability of the questionnaire, yielding an overall reliability coefficient of 0.89. The present investigation yielded a reliability coefficient of 0.840 for the abovementioned instrument, as determined by the internal consistency measure of Cronbach's alpha.

Demographic information questionnaire

To conduct a research study, participants' age, gender, employment history, and marital status were included as variables.

In order to conduct the research, the researchers, after receiving the approval of the Ethics Committee under the number IR.MEDSAB.REC.1401.038, they visited the research department, nursing office, and hospital security in each participating hospital's emergency department, described the study's objectives, and obtained written consent from the responsible authorities. They compiled a list of emergency department nurses to distribute questionnaires. Given the congested and stressful nature of the emergency department and the frequent influx of patients, the researchers consulted with the head nurse and emergency department supervisor regarding the timing and manner of approaching nurses. Necessary coordination was made to gain access to the nurses' break room and ensure their continuous presence at the nursing station during the shift. During the nurses' rest period or when the emergency department was relatively stable, the researchers approached them, introduced themselves, and sought their informed consent as participants in the study. They then explained the study's procedures and goals for each nurse and provided a written consent form for participation in the research and the questionnaires, while ensuring the confidentiality of personal information and emphasizing the anonymity of participating nurses, the researchers requested that the nurses complete the questionnaires via self-report within 24 hours and collect them afterward. The participants were also assured that their participation in the study was voluntary.

In this study, SPSS26 software was used for statistical analysis and the path analysis method was used to measure the relationship between spiritual intelligence and fatigue from providing care and moral distress. We also used correlation tests to check the correlation between these variables. In this research, in order to analyze the path, first the skewness and kurtosis of each variable and their maximum and minimum were calculated. Goodness of fit index (GFI) was calculated and Amos software was used to model structural equations and partial least squares [Figure 1].

Ethical considerations

In this study, the researchers fully attended to ethical considerations such as safeguarding confidential personal information with informed consent and the right to withdraw from the research. This study was approved by the Ethics Committee of Sabzevar University of Medical Sciences (IR.MEDSAB.REC.1401.038).

Results

In this study, 200 nurses participated, of whom 35% were from Semnan and 65% were from Sabzevar. Among the participants, 31.50% were male, and 68.5% were female. Additionally, 33.5% were single, and 66.50% were married. The minimum and maximum service tenure were three months and 28 years, respectively, with an average service tenure of 5.89. The age range of participants spanned from a minimum of 23 years to a maximum of 58 years, with a mean age range of 32 years [Table 1].

To examine the normality of the skewness and kurtosis of each variable and their minimum and maximum values, it was calculated and determined that all the variables entered into the model were normally distributed. Subsequently, path analysis models were plotted for both men and women in this study.

The results of Table 2 show, in men, an increase in spiritual intelligence leads to a significant reduction in moral distress (p = 0.01) and fatigue from caregiving (p = 0.001). In contrast, an increase in moral distress leads to a considerable increase in fatigue from caregiving (p = 0.001). In women, an increase in spiritual intelligence reduces moral distress, but this effect is not statistically significant (p = 0.41). However, spiritual

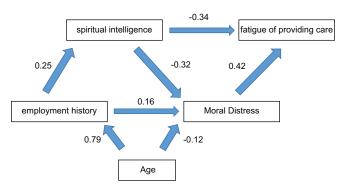


Figure 1: The assumed models of path analysis in this study

Table 1: Table of descriptive findings					
Variable	Mean (SD)*				
Age (years)	32.20(7.20)				
Employment history (year)	5.89(5.60)				
	Frequency (percentage)				
Marital status					
Single	66 (33)				
Married	134 (67)				
Gender					
Female	137 (68.50)				
Male	63 (31.50)				

Standard Deviation

Table 2: Results of linear regression of variables with Spiritual Intelligence in men and women									
Gender	Variables to be compared			SRW*	STE**	SDE***	SIE****	p	
	Spiritual Intelligence	\Rightarrow	Employment history	0.25	0.25	0.25	0.00	0.04	
	Employment history	\Rightarrow	Moral distress	0.16	0.08	0.16	-0.08	0.41	
	Spiritual Intelligence	\Rightarrow	Moral distress	-0.32	-0.03	-0.03	0.00	0.01	
	Spiritual Intelligence	\Rightarrow	Fatigue of providing care	-0.34	-0.47	-0.34	-0.13	0.001	
	Moral distress	\Rightarrow	Fatigue of providing care	0.42	0.42	0.42	0.00	0.001	
	Moral distress	\Rightarrow	Age	0.02	0.02	0.01	0.02	0.90	
	Spiritual Intelligence	\Rightarrow	Employment history	0.09	0.09	0.09	0.00	0.28	
	Employment history		Moral distress	0.01	0.03	0.01	-0.01	0.94	
	Spiritual Intelligence	\Rightarrow	Moral distress	-0.07	0.07	-0.07	0.00	0.41	
	Spiritual Intelligence		Fatigue of providing care	-0.30	-0.33	-0.30	-0.03	0.001	
	Moral distress	\Rightarrow	Fatigue of providing care	0.51	0.51	0.51	0.00	0.001	

*Standard regression weight, **Sum of standardized effects, ***standardized direct effect, ****Standardized indirect effects

intelligence has a decreasing effect on fatigue from providing care (p = 0.001) and the increase in moral distress causes a significant increase in fatigue from providing care in women (p = 0.001).

Regarding the effect of age on moral distress, in men, the variable age generally leads to a decrease in moral distress. However, the magnitude of this effect is not statistically significant (p = 0.554) according to the standardized direct and non-direct values. The direct effect of age on moral distress, it can be seen that the direct effect of age is more than its indirect effect (from the path of age-employment history-distress and also age-employment history-spiritual intelligence-distress). In women, the effect of age on moral distress is increasing, and the findings show that, in general, the age variable increases moral distress, although the amount of this effect is not statistically significant (p = 0.90). According to the standardized values of the direct and indirect effect of age on moral distress, it is observed that the direct effect of age is more than its indirect effect (from the path of age-employment history-distress and also age-employment history-spiritual intelligence-distress). Regarding the effect of employment history, the direct and indirect effect of employment history on spiritual intelligence and moral distress is much greater in men than in women. But only the effect of employment history on spiritual intelligence in men is statistically significant (p = 0.04) [Table 2].

Discussion

In this study, it was found that there is a direct relationship between the two variables of moral distress and fatigue from providing care. Also, there is a significant and inverse relationship between spiritual intelligence and moral distress and fatigue from providing care. The findings indicated that as age increases, spiritual intelligence scores increase as well, which aligns with the definition of intelligence that should have a particular pattern of growth and development. Additionally, the results showed that with increased employment history, spiritual intelligence also increases. It was found that spiritual intelligence has an effect on moral distress and its increase leads to a decrease in moral distress. Consistent with the results of the present study, Hannani et al.'s^[20] study showed an inverse relationship between spiritual intelligence and moral distress. In the study by Dev et al.,[21] showed spiritual intelligence is related to self-efficacy and positive health behavior. This suggests that when spiritual intelligence increases people's self-efficacy beliefs, they may increase their resilience in stressful situations and reduce their fatigue caused by caregiving. Contrary to the direction of the present study, in Ardahani's study,^[22] found that spiritual intelligence has no significant relationship with low-level burnout of nurses. The results of this research, where the field of work and nurses' department were not specified, could not find a significant relationship between spiritual intelligence and job burnout of nurses, although it was determined that there is a significant relationship between spiritual leadership and job burnout. Also, considering the special time of the research, i.e. the COVID-19 pandemic which was the cause of fatigue and burnout of the treatment staff, the results cannot be generalized to the time after COVID-19. According to the standardized values of the direct and indirect effect of age on moral distress, it can be seen that the direct effect of age is more than its indirect effect (from the path of age, employment history, distress, as well as age, employment history, spiritual intelligence, distress). In general, the level of perceived moral distress was higher in women than in men and in single people more than in married people. In accordance with the results of the present study, in Wigleton's study,^[23] it was found that female students witnessed moral distress conditions more than

male students. The results showed that the perceived level of moral distress of nurses increases with the increase in employment history. The study's findings indicated that as the level of moral distress, and fatigue from providing care increased, in emergency nurses. The study by Moghadam and colleagues^[24] revealed a significant correlation between the frequency of moral distress and the quality of safe nursing care, indicating a negative association. In this study, the level of moral distress among nurses in the emergency departments of teaching hospitals affiliated with the Tehran University of Medical Sciences was reported to be high in frequency and intensity. However, in our study, nurses' perceived level of moral distress was low, which may be attributed to the high turnover rate in Tehran's emergency departments, and probably Differences in study results could also be attributed to variations like the work environment, the department and hospital under study, the measurement tools used, and the resources and facilities available in educational and non-educational centers inside and outside the country and in public-private facilities. Moreover, the organizational culture and ethical climate, the support of managers, and employees' job satisfaction are important factors that contribute to ethical conflicts during service delivery.^[25] In line with the present study, De Villers et al.^[26] demonstrated that fatigue from providing care is more pronounced in individuals with low spiritual intelligence and high moral distress. Similarly, Hamaideh^[27] found that individuals with higher moral distress exhibit lower job satisfaction and are more likely to consider leaving their profession.

Conclusion

The results indicated that fatigue from providing care is more prevalent among women than men and among unmarried individuals compared to married ones. Also, people who have experienced the phenomenon of fatigue from providing care perceive higher moral stressors. It was also found that its level increases with increasing age, which indicates the erosion of the nursing job, especially in the emergency room. In line with our study, Meltzer's study^[28] found that in intensive care nurses, the frequency of situations of moral distress that are considered useless or unhelpful for their patients has a significant relationship with the experience of emotional fatigue, one of the main components of job burnout.

Among the limitations of the present study was the use of self-reporting method to complete the questionnaires, which may cause bias. Moreover, our study's cross-sectional descriptive-analytical design has lower generalizability than longitudinal or time-series studies. A strength of our study was its use of path analysis and structural equation modeling, which allow for a comprehensive understanding of the simultaneous relationships among multiple variables. This flexible framework offers the necessary capacity to test a wide range of possible relationships among variables in the model, including mediating effects and hidden confounding variables. At the same time, other methods do not have the necessary capacity to perform such investigations.

The results showed that the two variables of moral distress and fatigue from providing care have a direct relationship. Also, spiritual intelligence has an inverse relationship with moral distress and fatigue from providing care. According to the results of this research, it is suggested to increase spiritual intelligence and reduce the amount of moral distress and care fatigue by performing intervention measures. Also, solutions to reduce moral stressors in organizations should be presented and decisions should be made.

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Conflicts of interest

Nothing to declare.

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