Research Paper

Spiritual Health, Nursing Stress, Compassion Fatigue, and COVID-19: A Descriptive Correlational Study

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ABSTRACT

Background: Stress is inevitable in nurses caring for patients with COVID-19 and may cause compassion fatigue. Spiritual health seems to play a crucial role in coping with stress. Therefore, this study aims to determine the relationship between spiritual health, nursing stress caused by COVID-19, and compassion fatigue in nurses caring for COVID-19 patients.

Methods: In this cross-sectional study, 216 nurses caring for patients with COVID-19 participated from Bohlool Hospital (31), Nohomeh Day Hospital (100), and Razi Hospital (n=85), Khorasan Razavi Province, Iran, in 2021. The nurses of the COVID departments were selected by a simple random sampling method. Data were collected using a demographic questionnaire, spiritual health questionnaire, Figley professional quality of life questionnaire, and nursing stress questionnaire. Due to the non-normal distribution of the data, the Spearman correlation coefficient was used to examine the relationship between spiritual health, nursing stress, and compassion fatigue at a significance level of 5%.

Results: A significant direct relationship was observed between spiritual health and compassion fatigue ($P<0.001$, $r=0.35$). Thus, compassion fatigue increases with higher spiritual health. Also, a significant and direct relationship was observed between nursing stress and compassion fatigue ($P<0.001$, $r=0.27$), whereby compassion fatigue increased with increasing nursing stress.

Conclusion: According to the study results, higher spiritual health and higher nursing stress are associated with higher compassion fatigue. Thus, it is suggested that nurses be trained in nursing stress management techniques that can reduce compassion fatigue.

Keywords: Spiritual health, Compassion fatigue, Nursing stress, COVID-19

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Introduction

On December 31, 2019, the World Health Organization (WHO) announced the emergence of some unexplained pneumonia in China. This disease was called COVID-19. Its rapid spread led to its introduction as a pandemic on March 11, 2020 [1]. In less than a few months, it has caused a public health emergency worldwide [2]. The nurses experienced higher levels of psychological stress in the face of the COVID-19 disease [3]. Excessive work pressure and exposure to the risks of developing this disease have an additional psychological burden on nurses [4]. The health of nurses in COVID-19-related wards is at risk due to the nature of work, heavy protective clothing, use of masks, risk of self-contamination, and contamination of others, which can lead to psychological disorders [5]. It is essential, especially for nurses to cope psychologically with these stressor situations. Nursing stress can weaken the immune system and make nurses vulnerable to diseases, such as COVID-19 [6]. Nursing stress is an emotional, cognitive-behavioral, and psychological reaction to harmful aspects of the work and work environment [7]. Nursing stress in the long term deteriorates nurses' physical and mental resilience and eventually leads to burnout. Nursing stress and its consequences are currently one of the most common problems [8, 9]. Due to burnout or disability results of stress, 7.4% of nurses are absent each week, which is 80% more than in other jobs [10].

Prolonged exposure to stress leads to emotional responses and fatigue. In this situation, if the feeling of tiredness is not compensated, it turns into compassion fatigue [10, 11]. Compassion fatigue is an emotional effect that results from helping injured and sick people, such as COVID-19. It can lead to many complications, such as physical and mental fatigue, depression, and burnout [12]. Moreover, as nurses provide step-by-step emotional support to COVID-19 patients, it can create conditions for compassion fatigue [13]. As a result, it can negatively affect the care provided and the personal and professional relationships of nurses and reduce their capacity to enjoy life [14]. Due to the inevitability of stressors in the nursing profession and the need to prevent their devastating effects, measures should be taken to improve the quality of working life and train coping methods.

Spiritual health is associated with reduced perceived fear of COVID-19 [15]. Spiritual health helps people, such as nurses to make sense of what is happening and is capable to adapt to changes in the way of work life and conduct patients' relationships [16]. Spiritual health also seems to play a crucial role in coping with stressful events. Therefore, one of the interventions that may be useful to deal with stress is the promotion of spiritual health [8]. Spiritual health is defined as an inner and satisfying emotion with constructive relationships with oneself and others as well as a transcendent existence within the specific cultural context of each society [17]. Spiritual health can be a useful source of comfort and hope for nurses who face a lot of stress daily and are responsible for caring for patients [18]. However, spiritual health alone cannot predict COVID-19 stress and high spiritual health is not necessarily associated with low stress [19].

Based on what was stated, nursing stress and compassion fatigue are critical problems in nurses. Spiritual health as a mediator can probably help reduce them. However, the relationship between spiritual health, compassion fatigue, and nursing stress caused by COVID-19 is unclear. Thus, the present study was conducted to determine the relationship between spiritual health, nursing stress caused by COVID-19, and compassionate fatigue of nurses working in wards related to COVID-19.

Methods

Study design

In this cross-sectional correlational study, 216 nurses caring for patients with COVID-19 in Khorasan Razavi hospitals (Bohlool, Nohomeh Day, and Razi hospitals), Iran, in 2021 were selected using a random sampling method. The correlational study design was used to investigate relationships between nursing stress, compassion fatigue, and spiritual health. One of the biggest limitations of correlation research is that we cannot determine that the causation is due to correlation.

Sample

Based on the study conducted by Kairimi et al. [20], using the correlation Equation 1, and the lowest correlation coefficient between compassion fatigue and job stress (subscale of stress caused by using equipment, r=0.27), considering the of 99% Cl and the test power of 90%, the sample size was determined as 196. Finally, with a 10% probable attrition rate, it was increased to 216.

$$1.\ n=\frac{(z_{1-\alpha/2}+z_{1-\beta})^2}{(\frac{1}{2}\ln\frac{1+r}{1-r})^2}=\frac{(2.57+1.28)^2}{(\frac{1}{2}\ln\frac{1+0.27}{1-0.27})^2}+3=196$$

Two hundred and sixteen nurses caring for patients with COVID-19 were selected from Bohlool Hospital (31), Nohomeh Day Hospital (100), and Razi Hospital (n=85), Khorasan Razavi Province, Iran, in 2021. They were selected by a simple random method according to the contribution of each hospital in the sample size of the study and based on the list of nurses of each department.

Participants

The inclusion criteria included having a bachelor's or master's degree in nursing, at least three months of experience working in the COVID-19 wards, not facing crises in the last 6 months (such as the death of loved ones, divorce) to control for crises as a confounding variable, and working in the COVID-19 wards at the time of the study. The exclusion criteria included non-response to 20% of the questionnaire items. The nurses from the COVID departments were selected by a simple random sampling method according to the share of each department in the sample size of the study.

Instrumentation and measurements

Data were collected using demographic characteristics questionnaire, Palutzian-Elison spiritual health questionnaire, compassion fatigue subscale of nurses' quality of life questionnaire, and nursing stress scale. The demographic characteristics included gender, marital status, level of education, duration of employment (year), duration of employment in the COVID-19 ward (month), employment status, work shift, and amount of overtime in the last month (hours).

Spiritual health

Spiritual health was assessed by the Palutzian-Elison questionnaire. It is one of the tools to measure spiritual health that has been used in many studies. The Palutzian-Elison questionnaire consists of 20 questions, 10 of which measure religious health and 10 measure an individual's existential health. The spiritual health score of these two subscales is between 20 and 120. The answer to these questions is in the form of a 6-point Likert scale ranging from 1 (strongly disagree) to 6 (strongly agree). Items 1, 2, 5, 6, 9, 12, 13, 16, and 18 are scored in reverse. Spiritual health is divided into three categories, low (20-40), medium (41-99), and high (120-100). Dehshiri et al. assessed the internal consistency of the Palutzian-Elison questionnaire using Cronbach's α coefficient for the whole scale, religious, and existential health were calculated as 0.90, 0.82, and 0.87, respectively [21].

Compassion fatigue

Compassion fatigue was assessed by the compassion fatigue subscale of the nurses' professional quality of life questionnaire [22]. Mohammadi et al. [12] calculated the reliability of this questionnaire using the internal correlation coefficient of 0.80. Before starting sampling, the researcher measured Cronbach's α for the internal correlation coefficient on the compassion fatigue subscale and obtained r=0.89. Azadehjo et al. [23] calculated the reliability of this subscale using the internal correlation coefficient of 0.81. The compassion fatigue subscale has 10 items. The score of this subscale is the sum of 10 items. These questions are answered according to the 5-point Likert scale from most of the time=4 to never=0.

Nursing stress

Nursing stress was measured by the nursing stress scale. Gray-Toft and Anderson developed nursing stress scale in 1981 [24]. This scale consists of 34 items and seven subscales, death and dying (7 items), conflict with physicians (5 items), inadequate preparation (3 items), lack of support (3 items), conflict with other nurses (5 items), workload (6 items), and uncertainty concerning treatment (5 items). The answer to these questions is in the form of a 4-point Likert scale ranging from 1 (never stressful) to 4 (always stressful). The total tool score is 34-136. A score less than 68 is low stress, a score of 69-103 is moderate stress, and a score greater than or equal to 104 is high stress. Rezaee et al. assessed the internal consistency and reliability of the instrument using Cronbach's α coefficient and test re-test and reported them to be 0.8, and r=0.76, respectively [25].

Statistical analysis

The collected data were analyzed using SPSS software, version 20. Frequency, percentage and Mean±SD were used to describe the variables. We used the Kolmogorov-Smirnov test to check the normality of the data distribution. The results of the Kolmogorov-Smirnov test showed all main quantitative variables have a none-normal distribution. Therefore, non-parametric tests were used to analyze data. The Spearman correlation coefficient was used to analyze the relationship between spiritual health plus nursing stress, and compassion fatigue. The data were analyzed at a significance level of 0.05.

Results

The study participants included 216 nurses, who were not normally distributed in terms of age (P<0.001), work experience (P=0.009), and work experience in the COVID-19 wards (P<0.001). Table 1 presents the demographic characteristics of nurses working in the care wards of COVID-19 patients.

The results of the study showed that the mean score of the spiritual health of the nurses was 68.88±9.2 and the majority of them had a moderate level of spiritual health. The mean score of their compassion fatigue score was 21.75±6.77, of which, 95.4% (206 nurses) had low compassion fatigue and the subjects had a mean score of 51.29±15.29 for nursing stress.

Based on the results, a statistically significant and direct relationship was observed between spiritual health and compassion fatigue (P<0.001, r=0.35) (Table 2), with higher spiritual health, compassion fatigue increased. The positive correlation between spiritual health and compassion fatigue means that higher spiritual health is associated with higher compassion fatigue.

Based on the results of the present study, a statistically significant and direct relationship was observed between nursing stress and compassion fatigue (P<0.001, r=0.27) (Table 3). The positive correlation between nursing stress and compassion fatigue means that higher nursing stress is associated with higher compassion fatigue.

Also, a statistically significant relationship was observed between spiritual health and nursing stress; with higher spiritual health, nursing stress increased (P<0.001, r=0.11) (Table 4). The positive correlation between spiritual health and nursing stress means that higher spiritual health is associated with higher nursing stress.

Discussion

The present study was conducted to investigate the relationship between spiritual health, nursing stress caused by COVID-19, and compassion fatigue of nurses working in wards related to COVID-19.

The results of the present study revealed a statistically significant relationship between spiritual health and compassion fatigue. This means that with increasing spiritual health, compassion fatigue was aggravated. In the same direction, the study results of Chiang et al. showed that nurses who had higher levels of spiritual health cared for patients with more love and affection, whereas expressing more love and affection led to compassion fatigue [26]. These results are consistent with the results of the present study. To justify this relationship based on some studies [8, 27, 28], spiritual health has many effects. Among the most crucial of them, we can mention responsibility, tolerance, self-control, conscious and voluntary acceptance of challenges, threats, and difficulties, love for others, altruism, intimacy, kindness in relationships, compassion, and empathy [8, 27, 28]. According to these effects of spiritual health, a direct and significant relationship between spiritual health and compassion fatigue can be justified. Promoting spiritual health enhances affection, love, tolerance, fortitude, etc [8, 27, 28]. Thus, nurses with high spiritual health probably behave more responsibly, lovingly, and compassionately in caring for the patient, and as a result, their compassion fatigue increases. Accordingly, in some studies, a direct relationship was observed between spiritual health and nursing stress and burnout [8, 29]. Thus, it seems that despite the intensification of compassion fatigue, nurses with high spiritual health levels can tolerate this fatigue. It is suggested to elevate the level of the spiritual health of nurses to increase the tolerance of compassion fatigue, which can lead to enhancing the quality of care.

Also, a statistically significant and direct relationship was observed between nursing stress and compassion fatigue. This means that higher nursing stress is associated with higher compassion fatigue. Regarding this result, Tian showed a positive and significant relationship between job stressors and fatigue, and that if individuals have more perception of job-related stress, they will face more stress in the work environment and fatigue [30]. Another study reported a relationship between job stress and fatigue in nurses [31]. Job stress has a significant relationship with burnout as one of the critical causes of fatigue among nurses [32]. According to previous studies, stressful workplace conditions can negatively affect the mental health of nurses and make them feel exhausted [33]. In the literature, no reasons were found to justify this relationship, but the results of a systematic review have shown that repeated exposure to challenging and stressor situations can lead to a phenomenon called compassion fatigue [34].

Also, a statistically significant relationship was observed between spiritual health and nursing stress so that with higher spiritual health, nursing stress increased. In this regard, Pakdaman et al. reported that increasing spiritual health reduces nurses' job stress [35] which is inconsistent with the results of the present study. New studies have shown that spirituality and religious beliefs have a great effect on the mental and physical health

Table 1. Demographic characteristics of nurses working in the care wards of COVID-19 patients

Variables		No. (%)
Gender	Female	132(61.1)
	Man	84(38.9)
Marital status	Single	45(20.8)
	Married	171(79.2)
Level of education	PhD	5(2.3)
	MSc	25(11.6)
	BS	164(75.9)
	Associate degree	6(2.8)
	Diploma	16(7.4)
Duration of employment (y)	1-10	79(36.6)
	11-20	93(43)
	21-30	44(20.4)
Duration of employment in Corona ward (m)	1-6	120(55.6)
	7-12	67(31)
	13-18	21(9.7)
	19-24	8(3.7)
Employment status	Company	14(6.6)
	General commitment	17 (7.9)
	Annual contract	26(12)
	Government contract	60(27.7)
	Formal employment	99(45.9)
Shift	Alternating	188(87)
	The night	2(0.9)
	Evening	6(2.8)
	Morning	20(9.4)
Overtime in last month (h)	<50	52(24.1)
	50-100	102(47.2)
	>100	62(28.7)

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Table 2. The relationship between spiritual health and compassion fatigue of nurses working in the care wards for COVID-19 patients (n=216)

Variables	Mean±SD	Spearman Correlation Test
Spiritual health	68.88±9.2	r=0.35 P<0.001
Compassion fatigue	21.75±6.77	

Table 3. The relationship between nursing stress and compassion fatigue of nurses working in the care wards for COVID-19 patients (n=216)

Variables	Mean±SD	Spearman Correlation Test
Nursing stress	51.29±15.29	r=0.27 P<0.001
Compassion fatigue	21.75±6.77	

Table 4. Relationship between spiritual health and nursing stress with compassion fatigue of nurses working in COVID-19 patient care wards

Variables	Mean±SD	Spearman Correlation Test
Spiritual health	68.88±9.2	r=0.11 P=0.04
Nursing stress	51.29±15.29	

of individuals and are considered a common way to deal with problems. According to the results of a study conducted by Chirico et al., enhancing spirituality can reduce job stress [36]. In contrast to the above studies, Nooripour et al. stated that although spiritual health is related to stress, it cannot predict the stress of COVID-19 alone, and someone who has high spiritual health does not necessarily have a small amount of stress [19].

The results of some studies showed that stress hurts health while spirituality is positively correlated with health. Thus, spiritual health at work is essential to improve health status by providing a healthy atmosphere and meaningful work for employees [37, 38]. Chirico et al. also found that spirituality, such as prayer reduces job stress [36]. In explaining the results of the present study based on other studies, it can be argued that one of the functions of spiritual health is to help people in times of crisis [39, 40]. Spiritual health is considered a factor affecting the adaptation to reduce stressful situations [8, 18]. Spiritual health contributes to overcoming job stress resulting from difficult and unwanted environmental conditions [36, 35]. Because spiritual and religious beliefs affect interpreting events and facilitate the process and accepting events [29]. This indicates the need to more attention to spiritual health in stressor situations, such as COVID-19.

Nurses are one of the occupational groups that face high stress in the workplace, which causes them fatigue [32, 41]. Thus, some strategies should be adopted to reduce stress as much as possible. One of the strategies that have been studied to reduce the stress of nurses in various studies is spiritual health development. Research suggests that improving the level of spiritual health results in a reduction in job stress [27, 28, 36]. Belief in the existence of God and having a satisfying relationship with God, being purposeful, and meaningful in life help nurses endure many negative events and stressful daily conditions of the hospital environment with the greater ability [42, 43].

Although based on the results of the above studies, it was expected that there would be an indirect correlation between spiritual health and nursing stress but this correlation was not approved. In confirmation of this result, the Nooripour et al. study showed that although spiritual health is related to stress, it cannot predict the stress of COVID-19 alone [19]. Although the relationship between nursing stress and spiritual health is not strong,

to justify the relationship, it can be argued that high spiritual health is associated with high responsibility and sensitivity to care as well as performance [26, 28, 29]. Therefore, this high responsibility and high sensitivity can cause nursing stress. Due to the controversy of research results, it is suggested to conduct further research in this regard.

The present study had several limitations. First, the study subjects were limited to some hospitals in Khorasan Razavi Province. Thus, the results cannot be generalized to other nurses. Therefore, future studies are recommended to be conducted on nurses of other hospitals in Iran. Second, we used nurses' self-reports to collect the data. Accordingly, questionnaires can be manipulated due to subconscious results and it may jeopardize the research results. Third, this study was a cross-sectional correlational study. Thus, longitudinal studies are needed to determine the causal relationships among spiritual health, nursing stress, and compassion fatigue variables.

Conclusion

According to the study results, a positive correlation is observed between spiritual health, nursing stress, and compassion fatigue, which means that higher spiritual health and high nursing stress are associated with higher compassion fatigue. Thus, it is suggested that nurses be trained in nursing stress management techniques that can reduce compassion fatigue. Also, nursing managers should design and implement necessary interventions to control nursing stress to reduce compassion fatigue. Considering the contradictory results of our research compared to other research, it is suggested to conduct further research in this regard, especially to examine the correlation between spiritual health and nursing stress.

Ethical Considerations

Compliance with ethical guidelines

This study was approved by the Ethics Committee of Gonabad University of Medical Sciences (Code: IR.GMU.REC.1399.127). Furthermore, the study was conducted by the ethical principles provided by the Declaration of Helsinki and the guidelines of the Iranian Ministry of Health and Medical Education. All participants volunteered for the research. A verbal and fully informed consent form was obtained from the participants. Also, privacy was maintained and the participants' data was anonymized to maintain confidentiality.

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Authors' contributions

Supervision: Hosein Ajamzibad; Conceptualization, Methodology and credit taxonomy: All authors; Funding acquisition: Roya Vafaeinia, and Hosein Ajamzibad; Formal analysis and investigation: Roya Vafaeinia, Tahereh Baloochi Beydokhti and Hosein Ajamzibad; Data collection and resources: Roya Vafaeinia; Data analysis and interpretation: Tahereh Baloochi Beydokhti and Hosein Ajamzibad; Drafting the manuscript: Roya Vafaeinia, Hosein Ajamzibad and Tahereh Baloochi Beydokhti; Critical revision: Leila Sadegh Moghadam Abbaspour; Final approval: All authors.

Conflict of interest

The authors declared no conflict of interest.

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