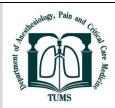


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The Effect of Spiritual Self-Care Education on the Distress Tolerance of Nurses in COVID-19 Intensive Care Units

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ABSTRACT

Background: In addition to the serious physical health impacts on nurses, COVID-19 has brought about significant psychological distress. Considering that spirituality as a strong foundation can be a powerful factor in controlling stressful conditions, this study was conducted with the objective of determining the effect of spiritual selfcare education on the resilience of nurses working in COVID-19 intensive care units. **Methods:** We conducted this randomized clinical trial study on 128 nurses working in COVID-19 intensive care units. Nurses were selected using convenience sampling. They were then randomly divided into two groups: intervention (64 nurses) and control (64 nurses). The research group received a spiritually based educational program in 6 sessions of 45 minutes each, held as a one-day event. Five relevant faculty members and the research team examined and approved the validity of the educational content. Two questionnaires (demographic characteristics and distress tolerance) were used to collect data. These questionnaires were completed by both groups before and after the intervention. Finally, the data were analyzed using SPSS.25 software and statistical tests including the t-test, chi-square, and Fisher's exact test.

Results: The mean age of nurses in the control and intervention groups was 35.23 ± 7.68 and 34.95 ± 6.77 years, respectively. The results of the independent samples ttest showed a statistically significant difference in the mean distress tolerance score and all its subscales (tolerance, absorption, evaluation, regulation) between the intervention and control groups after the intervention (P < 0.001). The level of distress tolerance in the intervention group after the intervention (50.40 ± 5.71) increased significantly compared to before the intervention (44.39 ± 5.23) (P < 0.001).

Conclusion: Ultimately, the results indicated that spiritual self-care training increases distress tolerance in nurses. Therefore, we recommend implementing a spiritual self-care program and planning for nurse participation in spiritual activities to enhance their psychological well-being.

Introduction

he COVID-19 pandemic and its related health consequences are significant events of the 21st century [1]. The Healthcare teams are always on the front lines of particular epidemics, risking their lives to fulfill their duties [2]. Among healthcare workers,

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E-mail address: afzal_sh63@yahoo.com DOI: <u>10.18502/aacc.v11i3.18501</u> nurses have the greatest involvement in the fight against COVID-19. During the pandemic, nurses have more close contact with patients than other healthcare workers. Sometimes this contact continues from the patient's admission to the hospital until discharge. Therefore, nurses are exposed to psychological distress [3].

The COVID-19 pandemic has created many problems for nurses, including severe fatigue, physical problems,

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fear of infection, and psychological distress [4]. According to research, psychological problems like depression, anxiety, insomnia, and psychological distress are more prevalent among nurses who are in direct contact with patients with COVID-19 compared to other nurses [5-6]. The results of a systematic review showed that mental health problems such as anxiety, depression, psychological distress, etc., have increased dramatically among healthcare workers, especially nurses, in different parts of the world. Researchers considered rapid, continuous, and timely psychological preventive interventions essential to prevent serious damage to healthcare systems in response to the COVID-19 epidemic [7]. Distress tolerance is considered an effective strategy for coping with problems and promoting health [8].

Distress tolerance helps individuals prevent, control, and treat psychological problems. It can also foster their emotional growth. By increasing distress tolerance and its dimensions, it is possible to reduce anxiety during the time of the coronavirus. Therefore, in anxiety reduction programs related to COVID-19, more attention to distress tolerance and its enhancement is essential [9]. Salari et al. [10] demonstrated in a study in this regard that the more a person can tolerate distress, the higher their tolerance for anxiety. Therefore, they face less anxiety with COVID-19 anxiety. During the COVID-19 crisis, distress tolerance helped people manage their fear, stress, and anxiety, as well as cope with challenges. In a study conducted by Mardani et al. [11] before the COVID-19 pandemic, most nurses in Malayer hospitals reported a moderate level of distress. While the COVID-19 disease has caused a decrease in the team's level of distress, especially among healthcare workers, for example, Sirati Sirati Nir and et al. [12] reported in a study that the level of psychological distress among Iranian nurses working in COVID-19 units and in direct contact with these patients is severe and pathological. These researchers recommended immediate action to reduce psychological distress among nurses.

Nurses who have symptoms of burnout or are distressed often turn to religion and spirituality to find meaning in stressors and threats [13]. In this regard, research findings have shown that the use of spirituality in medical sciences can be effective in providing comprehensive care [14]. The results of a meta-analysis showed that people who have higher levels of spirituality and engage in spiritual self-care practices have better physical health outcomes [15]. One of the most important types of self-care is spiritual self-care: a practice in which people use their beliefs and spirituality to protect their own health. Spiritual self-care increases compassion and moral courage in nurses. This not only benefits the health of nurses but also promotes the health of patients [16]. Bahramnezhad et al. [17] reported in a study that in the COVID-19 epidemic, spiritual self-care has a significant effect on increasing physical and mental resilience, reducing anxiety and depression, and instilling hope in the treatment team and COVID-19 patients. Talebian et al. [18] found in a study that low spiritual health among nurses results in harm to patients, especially exacerbated during the ongoing COVID-19 pandemic. Therefore, educational programs tailored to the spiritual conditions of nurses and the removal of barriers to providing spiritual care are recommended to ensure that nurses provide higher quality care to patients and their families. Considering that discovering the factors contributing to distress tolerance can reduce anxiety and enhance adaptability in individuals experiencing anxiety due to the COVID-19 epidemic [19]. nurses as individuals with sensitive occupations, whose health directly affects the health of patients, and advanced research in existing studies indicate that no research has been conducted on examining the effect of spiritual self-care on the distress tolerance of nurses directly caring for COVID-19 patients. Therefore, this study aimed to determine the effect of spiritual self-care education on the distress tolerance of nurses working in COVID-19 intensive care units.

Methods

This study is a randomized controlled clinical trial conducted in 2011 on 128 nurses. The study population consisted of nurses working in COVID-19 intensive care units at Tehran University of Medical Sciences. The sample size was calculated using a sample size formula and previous research [20], as well as a confidence level of 93% and power of 95%, resulting in 64 nurses per group.

Nurses were selected using convenience sampling. They were then randomly divided into two groups: intervention (64 nurses) and control (64 nurses). Inclusion criteria for the study included informed consent, a university degree in nursing, work experience of more than one year, experience working in a COVID-19 intensive care unit, no prior participation in a similar study, being Muslim, and not using antidepressants or any psychoactive substances. Exclusion criteria included unwillingness to continue after the intervention, withdrawal from participation in spiritual care programs, absence from more than one session in the intervention group, or incomplete questionnaire completion.

Questionnaires were completed by both groups before the intervention. Then, the nurses in the intervention group underwent testing according to (Table 1), in which a spiritual care training program was implemented in this group. A standard spiritual care training package for nurses [21], prepared by Iranian researchers and validated for its validity, was used. The content validity of the training material was examined and approved by 5 members of the relevant faculty and the research team. The training sessions, as per (Table 1), were conducted by the research team in the educational classrooms

located at the hospital for the intervention group. These training sessions were conducted in person, consisting of 6 sessions lasting 45 minutes each day. The sequence and content of the training sessions, as recommended by the developers of the training package (Table 1).

In the control group, no training was conducted by researchers. Completion of post-test questionnaires in the control group took place simultaneously with the intervention group, meaning two months after the intervention. After the post-test phase, the training package was also given to the control group to comply with ethical considerations in research.

Data were collected using cognitive population information questionnaires (age, gender, marital status, employment status) and the standard Distress Tolerance Scale (DTS) questionnaire in two stages (before and after the intervention) in both the groups. The Distress Tolerance Scale (DTS) questionnaire includes 15 items in four dimensions: efforts to regulate distress, cognitive appraisal, distress tolerance, and absorption of negative emotions. The questionnaire is scored on a 5-point Likert scale (1 to 5). Lower scores indicate lower distress tolerance. In the research by Simmons and Gaher [22], Cronbach's alpha for the emotional distress tolerance dimensions were as follows: tolerance of emotional distress, 0.72; absorption by negative emotions, 0.82; cognitive appraisal of distress, 0.78; and effort to regulate distress, 0.70. The total scale also reported 0.82. The intra-class correlation was also 0.61. This scale demonstrated good criterion validity and acceptable convergent validity [22].

This questionnaire has also been psychometrically tested by Iranian researchers. As an example of validity and reliability (α =0.72), this questionnaire was examined and approved in the study of Rezapour et al. [23]. Researchers were obligated to adhere to the Helsinki

Declaration. All individuals entered the study voluntarily, with full awareness of the study details and personal consent. Obtaining informed consent, maintaining confidentiality, the right to withdraw from the study, not imposing any financial costs on them, and not depriving nurses of common and customary job benefits were among the ethical considerations that the researchers adhered to.

Finally, the data were analyzed using SPSS.25 software and statistical tests including the t-test, chi-square, and Fisher's exact test. A P<0.05 was considered as a significant level.

Results

The mean age of nurses in the control and intervention groups was 35.23 ± 7.68 and 34.95 ± 6.77 years, respectively.

There was no statistically significant difference in the demographic characteristics of nurses between the two groups (p>0.05) (Table 2). The results of the independent samples t-test showed a statistically significant difference in the mean distress tolerance score and all its subscales (tolerance, absorption, evaluation, regulation) between the intervention and control groups after the intervention (P < 0.001). While it was not significant before the intervention (P > 0.05).

The findings in the intervention group showed a significant increase in the mean distress tolerance score after the training (50.40 ± 5.71) compared to before it (44.39 ± 5.23) (p<0.001), and this increase was also observed in all dimensions of distress tolerance (p<0.001) (Table 3).

Table 1- Steps and content of training sessions

Session	Educational content
First	In the first session, members were introduced and acquainted. The objectives of the research, the rules to be
Second	followed, and the number and duration of sessions were explained. Questionnaires were completed by the participants. Nurses who were willing provided explanations regarding their experiences, needs, and problems. In the second session, the nurses were introduced to topics related to spiritual self-care, which included reliance on God and its stages, intercession and its skills, pilgrimage sites and resources available in this area, as well as the use of reliance and intercession in managing stress and anxiety stemming from the COVID-19 pandemic,
Third	among other topics. In the third session, education was provided on communication with God, the act of prayer, and its impact on human life.
Fourth	In the fourth session, topics such as the role and impact of gratitude on mental peace and other related matters were discussed.
Fifth	In the fifth session, training was given on patience, its role and impact in human life, and how to use patience to reduce stress and anxiety caused by the COVID-19 pandemic. Furthermore, to reinforce the learned content, educational materials were provided to the nurses at the end of this session.
Sixth	The final session (sixth) took place about eight weeks after the fifth session. In this session, a review of previous topics was conducted. Recommendations were given to the nurses regarding ways to follow up on the content taught in the previous sessions. Finally, the questionnaires were completed by both groups.

Variable			Intervention		itrol	Statistical test and P value
		N	%	N	%	_
Gender	Male	43	33.6	36	28.1	Fisher
	Female	21	16.4	28	21.9	P = 0.275
Marital status	Single	5	3.9	8	6.2	Fisher
	Married	59	64.1	56	43.8	P = 0.280
Employment status	Permanent	26	20.3	36	28.1	γ^2
• •	Contractual	5	6.2	10	7.8	$\lambda = 5.465$
	conscription law's conscripts	20	15.6	14	10.9	df=3
	Temporary-to permanent	10	7.8	4	3.1	P=0.141
Shift type	Fixed (Morning)	8	6.2	9	7	$\boldsymbol{\gamma}^2$
• •	Fixed (Evening)	10	7.8	7	5.5	$\chi = 0.640$
	Fixed (Night)	8	6.2	8	6.2	df=3
	Rotating	38	29.7	40	31.2	P=0.887

Table 2- Demographic variables in the intervention and control groups

Table 3- Average scores of overall distress tolerance and its subscales in the two groups

Group		Intervention	Control	Independent test and P value
Variable	Stage	Mean ±SD	Mean ±SD	
Tolerance	Before	8.98±2.63	8.96±2.59	T=0.03, p=0.937
	After	9.98±1.89	8.65 ± 2.04	T=3.80, p<0.001
Paired t-test		t=2.76, P= 0.007	t=1.35, P=0.180	-
Absorption	Before	9.14 ± 2.28	8.53 ± 2.29	T=1.50, p=0.135
_	After	10.56±2.32	8.34 ± 1.80	T=6.02, p<0.001
Paired t-test		t=3.91, P<0.001	t=0.77, P=0.441	_
Evaluation	Before	18.29±3.67	17.48±3.54	T=1.27, p=0.205
	After	19.84±2.63	17.28 ± 2.91	T=5.21, p<0.001
Paired t-test		t=2.76, p=0.008	t=0.52, P=0.605	
Regulation	Before	7.96±1.95	8.81 ± 2.46	T=2.14, p=0.225
	After	10.01±2.01	8.90 ± 2.20	T=2.96, p=0.004
Paired t-test		t=5.79, P<0.001	t=0.37, P=0.707	_
Overall Distress Tolerance Score	Before	44.39±5.23	43.79 ± 4.97	T=0.65, p=0.512
	After	50.40±5.71	43.06±4.58	T=8.01, p<0.001
Paired t-test		t=6.89, P<0.001	t=1.26, P=0.211	

Discussion

The overall distress tolerance score of both groups of nurses was low before the intervention, indicating a low distress tolerance among the nurses in our study. In a study, Mardani et al. [11] reported that the stress level of most nurses in Mileyar city was moderate, which was related to the period before the COVID-19 epidemic. While nurses are currently in contact with patients, the low tolerance of our study samples may be due to the widespread nature of the coronavirus and its subsequent challenges. Research findings have shown an increase in mental problems such as anxiety, fear, psychological distress, etc. during the coronavirus epidemic [19,24]. It has been reported that in the coronavirus epidemic, these psychological issues are significantly higher among the treatment team [25-26].

The results of Qi et al. [27] in China showed that the treatment team were severely exposed to serious psychological issues in their work environment. Among

healthcare workers, nurses have the highest participation in the fight against COVID-19. In fact, from admission to discharge, nurses are regularly exposed to the disease. Therefore, psychological distress is much higher in nurses [25,28]. Melnyk et al. [29] in a study of nurses showed that more than half of them experienced physical and mental health problems during the coronavirus epidemic. Health problems caused by the coronavirus were more prevalent in nurses directly caring for COVID-19 patients than in other nurses. These researchers considered immediate supportive measures for nurses to be essential.

Nurses with low distress tolerance have difficulty managing stress and exhibit more maladaptive behaviors [30]. Mohammadpour et al. [9] showed in a study that individuals with lower distress tolerance have lower anxiety tolerance, thus facing more anxiety with COVID-19. Sirati Nir et al. [12] in a study showed that during the coronavirus epidemic, nurses experienced higher levels of stress and psychological problems compared to other professions. In addition, the level of psychological

^{*} Frequency; ** Percentage

distress among nurses working in COVID-19 wards and in direct contact with these patients is severe and pathological. These researchers recommended immediate action to reduce psychological distress among nurses. Also, psychological distress has been reported to be lower in nurses working in the coronavirus ward [31-34], which is similar to the results of our study.

Our research findings in the pre-training phase indicated no significant difference in the overall scores of distress tolerance and its subscales between the two groups, demonstrating homogeneity of the groups. However, this difference was significant after the training intervention. This signifies that the implementation of spiritual care training led to a significant increase in the overall scores of distress tolerance and all its dimensions in nurses, indicating the desired effectiveness of the training. Due to the lack of research directly comparable to the present study, related studies were used to develop the discussion. Researchers have found that spirituality, especially spiritual self-care, reduces stress and psychological and physical problems in individuals and helps them combat diseases [16,35]. Roberto et al. [14] showed in a study that spirituality in participants as an important dimension had a positive impact on their tolerance of distress, hope, optimism, calmness, and comfort. The participants' faith and spirituality helped them cope with daily life experiences during the COVID-19 epidemic and gave them hope for the future [9]. Safuraei et al. [36] demonstrated in a study that spirituality reduces fear and anxiety of death caused by COVID-19. Mirhosseini et al. [28] also showed that spirituality and religion in patients with coronavirus can reduce stress and anxiety of death. Liu et al. [37] concluded in a study that given the effect of the stressinducing coronavirus on treatment team, especially nurses, timely and effective psychological interventions such as spiritual education and therapy are necessary.

Pourmovahed et al. [38] demonstrated in a study on parents of premature infants that educational programs can increase parents' ability to cope with distress. Baldacchino reported in a study that spiritual care training is essential for nurses because it reduces psychological and physical problems, ultimately leading to quality care for patients [39]. According to the results of Salamizadeh et al. [39] spiritual care education resulted in increased distress tolerance and self-efficacy among patient caregivers. The results of several studies, including a study conducted in Iran, have shown that teaching spirituality increases the tolerance for distress in participants. For example, Ameri et al. [40] demonstrated in a study on blood cancer patients that spiritual therapy significantly reduced death anxiety and increased distress tolerance in patients. The results of the study by Reyhani et al. [20] showed that distress tolerance in mothers of premature infants significantly increased after spiritual self-care training. Hashemzadeh et al. [41] reported in a study on mothers of newborns hospitalized in the respiratory ICU that self-care spiritual education led to increased distress tolerance and reduced maternal caregiving distress. These researchers recommended its application for all caregivers. The results of the research by Lotfi Kashani et al. [42] on mothers of children with cancer showed that the use of a spiritual course reduced the distress of the participants, which was consistent with our study.

Strengths and Limitations

Considering the COVID-19 pandemic and the cultural and religious context of Iran, conducting research in line with the religious and spiritual background of nurses is considered one of the strengths of this study. Among the limitations of the present study, some nurses did not show much inclination to participate in the study due to the conditions of the pandemic. However, by selecting appropriate timing (early morning) for conducting educational classes, providing sufficient information, and answering their questions satisfactorily, they engaged in the study willingly and consciously.

Conclusion

Ultimately, the results indicated that spiritual self-care training increases distress tolerance in nurses. Therefore, implementing this training program and planning to involve nurses in spiritual activities is beneficial and effective in promoting their psychological well-being. Further research is suggested to be conducted on nurses in other regions of Iran as well as in other countries. Performing similar research on other healthcare team members is also recommended.

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