

The Effect of Spiritual Self-care Education on Stress of Mothers of Premature Infants Admitted to NICU of Hospitals Affiliated to Golestan University of Medical Sciences (2019)

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ABSTRACT

Background: The birth of a premature child is stressful for parents and brings them psychological stress. In the meantime, paying attention to the spiritual dimension can play an important role in reducing mothers' stress.

Aim: To investigate the effect of spiritual self-care training on the stress of mothers of premature infants admitted to the neonatal intensive care unit.

Method: This experimental study was performed on 50 mothers of premature infants admitted to two children's specialized hospitals of Taleghani Gonbad Kavous and Taleghan by simple random sampling in two test and control groups. In the test group, six 40-45-minute sessions were performed according to the Mary Wight spiritual self-care protocol and in the control group, routine care was implemented. The data collection tool was the State-Trait Anxiety Inventory (STAI) of Spielberger. Data analysis was performed by descriptive statistics (tables, mean, and standard deviation) and inferential statistics (paired t-test, independent t-test, and ANCOVA).

Results: The covariance test showed a significant difference ($P < 0.01$ and $\eta^2 = 0.25$) by eliminating the effect of pretest ($P < 0.01$ and $\eta^2 = 0.25$), so that 25% of the stress reduction changes are related to spiritual self-care in mothers.

Conclusion: Due to the effectiveness of spiritual self-care method in mothers, health officials can use non-pharmacological methods by discovering the spiritual needs of mothers. Since Iran is an Islamic country with adherence to spiritual and religious principles, the use of non-pharmacological methods such as spiritual therapy can play an important role in reducing maternal anxiety and stress.

Keywords: Spiritual self-care, stress, infant, mothers of infants, premature infants

INTRODUCTION

The birth of a healthy child is the best divine gift; however, encountering a premature baby causes psychological crisis for parents¹. According to the World Health Organization's definition, a baby born before 37 weeks from the first day of the last menstrual period is considered a premature baby².

Premature birth is one of the most important causes of infant mortality without birth defects³. According to the World Health Organization, 13 million premature babies are born annually. The prevalence of premature births in the world is about 9%⁴. The prevalence of premature birth varies in different societies; accordingly, 8 to 10% of infants born in the United States and 5 to 7% in Europe are premature⁵. Five thousand live births occur in Iran among which 12% are premature infants⁴. The birth of a premature baby, his illness, and hospitalization turns all the plans, hopes, and happiness of the family into despair, anxiety, and confusion while parents suffer from stress⁶. That is because parents, especially the mother, have been waiting for the birth of a healthy and normal baby throughout the pregnancy, which is contrary to her expectations⁷. In the meantime, hospitalization of the infant in an unfamiliar environment along with the noise of the equipment of the intensive care unit, the separation of the mother from the infant, and the appearance of the infant aggravates these stress^{8,9}. Sometimes these stress can be due to the parents' lack of awareness of the parental role during the infant's hospitalization². These stress disrupt the emotional and psychological, especially the mother-child, roles of the

parent¹⁰. In such situations, the anxious and worried mother's arms transfer stress and restlessness to the hospitalized infant¹⁰.

Mothers of premature infants often use different mechanisms to overcome the mentioned stresses and adapt to the unbalanced situation⁶. In the field of medicine, studies show that spiritual beliefs have a special effect on health behaviors and beliefs¹¹. This need becomes more apparent in times of illness and life crises¹². Spirituality can strengthen individual ideals and the meaning of life in the face of hardships and problems^{13,14}. Providing spiritual care to the patient and his family can elevate comfort and reduce psychological pain, depression, and anxiety¹⁵. Spiritual self-care is defined as a set of spirituality-based exercises to promote healing in times of illness and health. For example, it can include listening to inspirational music, meditation, yoga, attending religious services, reading religious scriptures, and walking to enjoy nature¹⁶. Although research shows that people use spiritual strategies as moderators of stressful situations, little attention has been paid to spirituality in the neonatal intensive care unit¹⁷. In this regard, the present study was designed to investigate the effect of spiritual self-care education on the stress of mothers of premature infants admitted to neonatal ICU.

MATERIALS AND METHOD

This study is a classic experimental study with two test and control groups that was performed on mothers of premature infants admitted to hospitals affiliated to

Golestan University of Medical Sciences in 2019. The research population of this study was all mothers of premature infants admitted to the intensive care unit of Golestan province. Based on G * POWER software and Reyhani et al. (2014) with an effect size of 0.93, test power of 95%, a mean level of 0.05, and 95% confidence interval, the sample size of this study was set as 50 (25 test) and (25 control). They were included in the study after the approval of the plan in the research council of the university and obtaining ethics and informed consent. The inclusion criteria include literacy in mothers, having a 28 to 36-week premature baby, no history of psychiatric medication in the mother, no history of drug and alcohol abuse in the mother, no previous history of premature hospitalization, absence of twins in the birth of infants, the mother in the last 6 months did not suffer from obvious stress (such as death, divorce, etc.) or the absence of anomalies and physical defects in children.

Data collection tools included a demographic information questionnaire (mother's age, education, occupation, and length of hospital stay of the infant) and Miles Parental Stressor Scale. Questionnaires were given to both groups and filled by the mothers. The parents of the test group were divided into groups of 10 to 15. The executive protocol of the sessions was approved by the consultant. The educational content was approved by the supervisor and hospital officials. Then in the test group parents were provided with 6 sessions of 30 minutes for six weeks with educational materials such as whiteboards, pamphlets and teaching methods such as questions and answers in sessions, group discussions, and the intervention training booklet. The face and content validity

of the demographic information questionnaire was confirmed by ten faculty members of the Islamic Azad University of Nursing. The description of the sessions is given in Table 1.

The validity of Miles Parental Stressor Scale was also confirmed in internal studies¹⁶ and the reliability of this questionnaire was confirmed by Cornbach's alpha coefficient of 0.87. This questionnaire contained 45 questions that were scored based on the 5-point Likert scale^{15,16}. One month after the intervention, Miles Parental Stressor Scale was completed by the test and control groups. The collected data were analyzed using the SPSS software version 16, descriptive statistics, independent t-test, and analysis of covariance.

The researcher first introduced himself to the hospital authorities after obtaining written consent from the university and gained the permission of the authorities, and then he referred to the neonatal intensive care units of the selected hospitals. After introducing himself and the research objectives to the neonatal mothers, he started his study at the right time. In the control group, the mothers received the necessary training according to the routine care of the hospital. In the test group, before starting the study, the researcher explained the objectives of the research to the mothers about the confidentiality of information, anonymity and safety of the study, and ensured them that they are allowed to leave during the study if they do not want to continue. In the test group, six 40-45- minute sessions were performed according to the Mary Wight spiritual self-care protocol and in the control group, routine the care was implemented.

Table 1: Session Description

Session	Duration	Educational content
First session	35-40	While explaining the research objectives and getting to know the mothers, the researcher will try to gain their trust
Second session	35-40	The researcher tries to explain the concepts of trust, patience, and teaching memoir writing (two memoirs for the third session). Helping mothers to understand the meaning and concept of illness and divine destiny - strengthening hope and inner strength
Third session	35-40	Altruism, heavenly reward, reviewing the written memories of mothers (second session homework) listening to the problems, concerns, and stress of mothers- creating empathy, trust and confidence between the researcher and mothers- providing the necessary facilities for religious practices
Fourth Session	35-40	The researcher discusses and teaches about the concepts of spirituality, and the psychological effects of praying
Fifth meeting	35-40	Spiritual methods and its effects, encouraging the use of religious-recreational and spectacular spaces and doing light sports activities
Sixth Session	35-40	Encouraging mothers to participate in spiritual-religious programs, telling the story of religious role models, and concluding meetings

RESULTS

The mean and standard deviation of mothers in the research units in the test group was 32.24 + 5.99 and that of the control group was 29.42 + 6.28. Independent t-test did not show a significant difference between the two groups in terms of maternal age (P = 0.14). The employment status of mothers in the test group was 48% housewives, 32% employees, and 20% self-employed and that of the control group was 76% housewives, 12% employees, and 12% self-employed. Also, among the 25 participants in the test group, 8% had primary education,

36% secondary education, 20% high school, 24% diploma, and 12% university education, and among the 25 mothers in the control group, 4% had primary, 32% secondary, 32% high school and 28% diploma, and 4% university education. Fisher test did not show a significant difference between the two groups in terms of education and occupation. Demographic characteristics of mothers of hospitalized neonates did not show a statistically significant difference in terms of duration of neonatal hospitalization (P = 0.42) (Table 2). The independent t-test showed a significant difference between the test and control groups in

terms of stress in the two groups before the intervention ($P = 0.02$). The amount of stress in the test group was higher than the control group, but the independent t-test did not show a significant difference in terms of stress between the test and control groups after the intervention ($P = 0.17$). Accordingly the amount of stress in the test and control

groups were not significantly different (Table 3). Covariance test showed a significant difference between the test and control groups by removing the effect of pre-test ($P < 0.01$ and $\text{Eta} = 0.25$) so that 25% of stress reduction changes are explained by the spiritual self-care in mothers (Table 4).

Table (2) Comparison of test and control groups according to demographic characteristics

Group Demography		Test	Control	P_Value
Age		32/24 + 5/99	29/42 + 6/28	P =0/14
Level of Education	Primary	(%8)2	(%4)1	P =0/65
	Middle school	(%36)9	(%32)8	
	High school	(%20)5	(%32)8	
	Diploma	(%24)6	(%28)7	
Academic		(%12)3	(%4)1	
Occupation	Housewife	(%48)12	(%76)19	P =0/13
	Employee	(%32)8	(%12)3	
	Self-employed	(%20)5	(%12)3	
Duration of hospitalization		8/96 + 4/31	8/12 + 2/99	P =0/42

Table 3: Comparison of stress dimensions in mothers of neonates admitted to the test and control groups before and after the intervention

Time Group	Before the intervention	After the intervention	P_VALUE
Control	158/68 + 9/34	156/24 + 8/18	0/03
Test	164/28 + 7/74	152/96 + 8/58	0/02
P_VALUE	P =0/02	P =0/17	

Table 4: The effect of spiritual self-care education on the stress of mothers admitted to the neonatal unit

	Sum of squares	DoF	Mean Square	F	Level of significance	Eta
Modified model	1818/66	2	909/33	25/51	P<0/01	0/52
Post-test separator	25/5	1	252/5	7/08	P<0/01	0/13
Group	574/22	1	574/24	16/11	P<0/01	0/25
Error	1675/33	47	35/64			
Sum	1198552	50				
Total	3494	49				

DISCUSSION

The aim of this study was to investigate the effect of spiritual self-care education on the stress of mothers of premature infants admitted to the intensive care units of hospitals affiliated to Golestan University of Medical Sciences. The results show that spiritual self-care reduces the stress of mothers of premature infants, which is in line with previous results. The results of the study of Erie et al. (2017) showed a significant decrease in the mean score of anxiety in the test group before and after the intervention¹⁸. Ashvandi et al. (2016) conducted a study entitled "the effect of spiritual care program on death anxiety in patients with chronic end-stage renal disease undergoing hemodialysis". The results showed that the spiritual care program reduced the anxiety of death among patients with chronic renal failure during the final stage of hemodialysis¹⁹. Torabi et al. (2018) confirmed the importance of spiritual care for adolescents with cancer²⁰. Reyhani et al. (2013) concluded that self-care education reduces psychological stress and increases the tolerance of anxiety of mothers with premature infants in the neonatal intensive care unit²¹. This study, which is consistent with the present study, can be due to the similarity in the spiritual self-care education program and the similarity of the culture of the two communities, which has led to spiritual care as an effective defense mechanism and as a shield. Therefore, it helped

them to overcome stress. Carvalho et al. (2009) in their study on reducing depression in 53 mothers of preterm infants in the hospital showed that psychological support for mothers with preterm infants was achieved by meeting the needs of the mother in relation to her infant's condition, informing prematurity reduces depression and increases level of situational anxiety in the mother²².

ZafarianMoghadam et al. (2016) in the "effect of spiritual-religious education on depression, anxiety, stress and spiritual health of caregivers of children with leukemia" showed that spiritual health after education was significantly higher²³. Salimi et al. (2015) showed that spiritual self-care has a positive effect on the life expectancy of patients with coronary artery disease²⁴. The results of Beigi et al.'s studies showed the importance of paying attention to spiritual interventions in reducing anxiety and increasing quality of life²⁵. Sankheh et al. (2017) showed that according to MATCH guidelines, spiritual care improves spirituality and well-being in general in patients and primary caregivers²⁶. Mary Wight et al. (2013) conducted a study entitled "Psychometrics of the Spiritual Self-Care Scale" in patients with African American heart failure. The results of this study showed that SSCPS is reliable and valid for measuring spiritual self-care practices among African American Americans with heart failure²⁷.

Spiritual beliefs lead to finding meaning in life and reducing stress and anxiety in patients and their companions in stressful living conditions²⁸⁻²⁹. The results of study aimed to determine the effect of group logotherapy on spirituality in patients with cancer showed that there were statistically significant differences between the mean of spirituality score in the intervention group before and after the logotherapy, but it was not significant in the control group³⁰. Also, Hart et al. (2012) represented the low impact of spiritual interventions on the symptoms and prognosis of cancer in individuals³¹. The inconsistency of the results of this study with the present study might be due to the heterogeneity of the conditions of the subjects such as age, level of education, socio-economic status, support of spouses and relatives, and number of children. This difference can be related to the study population so that the people of the two studies were culturally and socially different from each other. In this study, there were limitations such as the small sample size for education. However, these educations can be provided for all mothers with infants admitted to hospitals in the country. Other limitations were the spiritual beliefs of the mother that these beliefs were different in each mother and it was out of the researcher's control, which could be a factor affecting the psychological stress and quality of life of mothers with premature infants. On the other hand, when the researcher was educating the mother, she was also provided with advice and training for the next session. Following these trainings and recommendations is very effective in the process of influencing the education. However, the mothers' adherence to these trainings and recommendations were different that the researcher had no control over. For higher cooperation and a better focus for receiving trainings, the appropriate time of day was considered when the mother had the opportunity to listen and receive information.

CONCLUSION

According to the results of the present study, it seems that the spiritual self-care training program improves the stress and anxiety of mothers of premature infants. Therefore, it is recommended to use this method independently or in addition to other treatments as a low-cost, effective and safe treatment. The spiritual self-care training sessions can be used as an easy, low-cost, and applicable method and as a method that causes sentiments that creates interactions could reduce anxiety in mothers of premature infants.

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