Original Research

The Effect Of Spiritual Self-Care Training On The Anxiety Of Infants Hospitalized In The Respiratory NICU

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Abstract

Background: The birth of premature infants is considered a crisis for their mothers, and causes a high level of anxiety and worry in them. Since spirituality plays an important role in adapting to crises and stressful situations, spiritual self-care is considered a part of self-care model. This study was conducted to investigate the effect of spiritual self-care training on the anxiety of infants admitted to respiratory NICU.

Method: This experimental study with pre-test/post-test design was conducted on 64 mothers of hospitalized infants who had been divided in two intervention and intervention groups by simple random allocation method. The Spielberger state-trait anxiety inventory (STAI) was used to collect data, which later were analyzed by descriptive (table, mean, standard deviation) and inferential statistics (paired t-test, independent t-test, covariance test) at a significant level of 0.05.

Results: The results of covariance test showed a significant difference between the intervention and control groups by removing the effect of pre-test ($P < 0.01$ and Eta = 0.43), so that 43% of changes in the intervention group could be explained by the spiritual self-care training.

Conclusion: Spiritual self-care training reduced anxiety in mothers of hospitalized infants. Therefore, this care method can be used to discover people's capabilities in critical life situations. It can also be used as an effective and low-cost intervention in nursing care.

Keywords: Spiritual self-care, Anxiety, Hospitalized infants, Neonatal ward

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Introduction

The birth of a premature infant causes a great deal of psychological crisis for his/her parents (1). According to the statistics of World Health Organization, 13 million premature infants are born every year, and the prevalence of premature birth in the world is about 9% (2). This prevalence varies in different societies, so that 8-10% of infants born in America and 5-7% in Europe are premature (2, 3). The prevalence of premature birth in Iran is about 9% (4). The birth of a premature baby and it consequent illness and hospitalization turn all plans, hope and happiness of parents into despair, worry and confusion (1, 5), and most parents of premature infants face mental stress (6). Parents, especially mothers, have been waiting for the birth of a healthy and normal baby throughout the pregnancy, but the birth of a premature infant turns the exciting expectation into a crisis (7). In the meantime, hospitalization of newborn in an unfamiliar environment, the noise of NICU's equipment, the separation of mother and infant, and the infant's appearance intensify the parents' stress (8). Sometimes these stresses are caused by the parents' lack of knowledge about the role of parents during infants' hospitalization, which causes disruption in the emotional and psychological relationships between parents and infant, especially the mother (6, 9). Meanwhile, parental stress can have a negative effect on the infant and also the parents-infant relationship. Therefore, any type of intervention that teaches parents how to deal with their stress can help them to maintain and strengthen their emotional relationship with their infant (10). In such situations, hugging the infant by an anxious and worried mother causes the stress and anxiety to be transmitted to the hospitalized infant (11). Meanwhile, spirituality is one of the main means by which people can reduce and overcome their suffering and stress (32). For this reason, paying attention to the spiritual needs of patients is considered an important aspect of care (12, 13). Spiritual experience can help one to adapt to the stressful life events by creating a meaning of life and feeling of belonging to God (17-14). Most spiritual experiences increase the level of self-care and self-efficacy (18, 19). Self-care is influenced by knowledge, skills, values, motivation and efficiency (20). Spiritual self-care is considered as one of the main aspects of self-care (21). Spiritual self-care is defined as a set of spirituality-based exercises that help to promote recovery and health (21, 22). Spiritual self-care activities include listening to inspirational music, doing meditation and yoga, attending religious ceremonies, reading the Bible, and enjoying the nature while walking in it (23, 24). Spiritual self-care is based on one's mind-soul-body connection, education, moral and religious/life experiences that result from faith, feelings, and emotions (22). Examples of spiritual self-care can include building social networks or volunteering, listening to inspirational music, doing meditation, and creating a sense of inner peace and comfort (8). Also, attending religious services, reading sacred or inspirational texts and improving personal relationships are the examples of spiritual self-care activities (21, 25). In fact, the ultimate goal of spiritual self-care activities is to promote physical and spiritual well-being and health (22). Therefore, spiritual care is used as an effective prevention measure to reduce anxiety and stress (26). Since the use of healthcare theories plays an important role in reducing anxiety and improving the quality of nursing care (27), the use of healthcare and rehabilitation models increases clinical care (28, 29). Thus, this study was conducted to examine the effect of spiritual self-care training on the anxiety of infants hospitalized in respiratory NICUs of hospitals in the city of Sari.

Method

This classical experimental study with pre-test/post-test design was conducted on 64 mothers of hospitalized infants who had been divided in two intervention and control groups. The environment of this study was the NICUs of Bu-Ali and Imam Khomeini Hospitals in Sari in 2020. The conditions for entering this study included;

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willing to participate in the study, having reading and writing literacy, having no history of taking antidepressants, being a Muslim and an Iranian, and having no mental health problems (for parents), and having a minimum age of 32 weeks and being hospitalized for at least 14 days in NICU (for infants). The exclusion criterion included; being absent for more than two training sessions and unwilling to participate in the study. The sample size was calculated to be 64 people (n=32 people in each group) by G*POWER software based on the study of Rihani et al. (2017) with an effect size of 0.93, a test power of 95%, and a confidence interval of 95% (5). The significant level of 0.05 was considered for all tests. The simple random allocation method was used for sampling. First, the researcher prepared a list of eligible samples and then, selected the participants in the intervention and control group from those who met the inclusion criteria. The researcher also explained the study objectives and emphasized on the observance of ethical issues, such as maintaining the anonymity of samples, confidentiality of personal information the safety of study, and the possibility of withdrawal from the study at any time. The participants in the control group received the routine care provided by the NICU, but the participants in the intervention group received 6 training sessions (30-45 minutes each) based on spiritual self-care, the content of which was taken from Mary White's article that examined the dimensions of spiritual self-care (24, 25). The validity of these sessions was confirmed by the faculty members of Azad University and University of Medical Sciences (Table 1). The data collection tools in this study included the mothers' demographic characteristics form (age, sex of the child, mother's occupation and mother's education) and the Spielberger state-trait anxiety inventory (STAI). The STAI was designed in 1970 by Spielberger and contains 40 questions, so that questions1 to 20 are dedicated to state anxiety and questions 21 to 40 are dedicated to trait anxiety (11). Questions related to state anxiety are scored on a four-option Likert scale, ranging between not at all, sometimes, often, and very much. Also, questions related to trait anxiety are scored based on 4-option Likert scale, ranging between almost never, sometimes, most of the time and almost always. A high score in this tool indicates a high level of anxiety (30).

In a study conducted by Taqvi et al. (2012) on 219 people with generalized anxiety disorder, major depression and normal people, the Cronbach's alpha coefficient of STAI was calculated at 0.92 for the state anxiety section and 0.90 for the trait anxiety section (31). In the present study, the questionnaires were completed by both groups before the start of intervention and after the intervention through self-reporting method. Then, the collected data entered into SPSS-21 statistical software to be analyzed by descriptive (table, mean, standard deviation) and inferential statistics (paired t, independent t and ANCOVA test) at a significant level of 0.05.

Results

In terms of demographic characteristics in the intervention and control groups, the mean age of mothers in the intervention group was 28.4 + 4.87 years and in the control group was 6.71 + 30.51 years. Results of independent t-test did not show any significant difference between the two groups in terms of the mean age of mothers (P=0.15). The mean age of infants in the intervention group was 33.87 + 0.9 weeks and in the control group was 37.1 + 1.15 weeks, and results of independent t-test did not show a significant difference between the two groups in this regard (P=0.06). The Chi-Square test did not show any significant difference between the two groups in terms of the infant's gender (P=0.31). Fisher's exact test showed no significant difference between the two groups in terms of the level of income (P=0.06), mother's education (P=0.15) and mother's occupation (P=0.3). Independent t-test did not show any significant difference between the intervention and control groups before the intervention (P=0.2), but it showed a significant difference between the two groups after the intervention (P=0.002). The paired t-test did not show any

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significant difference in the control group before and after the intervention (P=0.92), but it showed a significant difference in the intervention group before and after the intervention (P=0.006), (Table 2). The covariance test showed a significant difference between the intervention and control groups by removing the effect of pre-test (P < 0.01 and Eta = 0.43), so that 43% of changes in the intervention group could be explained by the spiritual self-care training (Table 3).

Discussion

The results of this study showed that the spiritual self-care training reduced the anxiety of mothers of infants hospitalized in respiratory NICU. The results of this study are in line with the findings of previous studies. Sadegh Heydarpoor (2022) believed that spiritual self-care model has an effective role in reducing the anxiety of mothers of children hospitalized in neonatal ward (22). Yazarloo (2023) showed that spiritual self-care reduces tension and stress in mothers of infants admitted to NICU (3).Reyhani (2014) argued that spiritual self-care training reduces mental stress and increases the distress tolerance of mothers of premature infants admitted to NICU (5). Valipour Eskandarkolaii (2022) in a study revealed that spiritual self-care model has an effective role in reducing anxiety and insomnia, and improving sleep quality in diabetic children (32).

Hatami (2019) believed that nursing theories with an emphasis on improving the quality of nursing care play a major role in reducing the suffering and anxiety of mothers of hospitalized children (10). Motahari Niya (2019) in a study concluded that psychological exercises and training reduce anxiety and increase self-efficacy in mothers of hospitalized children (33). Sadeghi (2021) showed that daily spiritual experiences and spiritual beliefs reduce stress and increase self-efficacy in veterans' wives (15). Vazifeh Doust (2020) in a study argued that spiritual care reduces anxiety, increases self-efficacy and empowers patients by creating an inner feeling and peace (34). Iri (2019) showed that spiritual self-care increases the patients' self-efficacy and promotes the quality of medical care (35). Hojjati (2022) revealed that daily spiritual experiences reduce perceived stress in caregivers, because spirituality plays an effective role in people's ability to adopt to stressful life conditions (36). Okhli (2022) believed that religious and spiritual beliefs reduce suffering in dialysis patients. This method is also considered a defensive and coping strategy in stressful situations (37). Sajadi (2018) showed that the use of adaptation and empowerment models in mothers of children hospitalized in NICU increases the quality of nursing care (1). Ahmadi (2021) believed that the use of behavioral theories and nursing models significantly reduces stress and anxiety in mothers of hospitalized children (38). Therefore, spiritual care is known as the most important contributing factor to achieve balance in maintaining health and dealing with diseases (14). Tak (2012) in a study showed the limited and small effects of spiritual care and intervention on people (39). Hart and colleagues also showed a limited and small effects of spiritual care on cancer prognosis in people suffering from cancer (40). This inconsistency in the results of these two studies with the findings of present study can be due to differences in samples, especially in terms of age, education level, economic-social status, support of spouses and family members, and the number of children. Also, this difference can be related to the environments of these studies, so that the samples in the above-mentioned studies are culturally and socially different from our study. A great volume of evidence indicate that spirituality has significant health benefits that can lead to improved care (41). Many studies show that care providers, if intended to provide comprehensive care, should recognize the spiritual needs of patients in addition to their mental and physical needs (36). Because many theorists believe that spirituality is an important but flexible resource that help to protect people against problems and negative life experiences (36). Spirituality is not necessarily a need to believe in God and follow a particular religion, but a personal search and a

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series of questions about life and transcendent forces (23). Also, since spiritual care is one of the standard aspects of nursing care (42), especially in a country with people who have spiritual and religious beliefs, the use of spiritual methods and models has an effective role in the provision of high quality nursing care (14, 43). The spiritual care also helps to discover people's abilities in critical life situations (2). It can also be used as an effective and low-cost intervention in nursing care (44, 45). Not considering cultural differences and relatively small sample size were among the limitations of this study. So we recommend similar studies to be conducted with larger sample size and longer duration to examine the effect of spiritual self-care training in sufferers of other diseases.

Conclusion

Considering the effectiveness of spiritual self-care in reducing the anxiety of mothers of hospitalized infants, we recommend this method to be used for the mothers of infants admitted to NICT in order to reduce their mental and emotional pressures caused by the hospitalization of their infants. This therapeutic model indirectly affects the treatment process and promotes the health of mother and infant. Spirituality and spiritual exercises can also be considered as an important factor in reducing crises caused by illness, and increasing the adaptability and tolerance of mothers of critically ill children.

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Conflict of interest

There was a conflict of interest in this study.

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Table & Figure:

Table 1: Spiritual self-care training sessions for mothers of children admitted to NICU

Session	Duration	Content
Session 1	60 min	Getting familiar with the working process and goals of the group. Getting familiar with the mothers under study and establishing a mutual trust and communication between the researcher and the mothers under study. Questionnaires are divided between both the intervention and control groups. Parents get to know each other in addition to answering the questions. They are given the opportunity to talk about their major problems and exchange experience and information.
The researcher creates the intervention and control groups		
Session 2	60 min	Getting familiar with the spiritual self-care methods, focusing on topics such as trust, patience, altruism and afterlife rewards
Session 3	60 min	Getting to know the concepts of spirituality, spiritual methods and their effects
Session 4	60 min	Getting familiar with the spiritual methods such as writing memories, speaking, reading books, and listening to music
Session 5	60 min	Getting familiar with the exercise methods such as walking and yoga
At the end of fifth session, an educational package including a book and an educational CD will be provided to the mothers to consolidate the educational content		
Session 6	Two months after the intervention 60 min	Completing the questionnaires two months after the intervention by two intervention and control groups

Table 2: Comparison of anxiety levels in the mothers of newborns in the two intervention and control groups

Group / Time	Control	Intervention	P-value
Before intervention	4.96 ± 1.96	4.32 ± 1.67	P=0.66, mean=0.2
After intervention	4.76 ± 1.45	6.08 ± 1.75	P=0.002, mean=1.76
P-value	P=0.92	P=0.006	

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Table 3: The effect of spiritual self-care training on the anxiety of mothers of infants hospitalized in NICU

	Sum of squares	Degree of freedom	Mean of squares	f-value	Level of significance	Eta
Modified model	7320.23	2	3660.16	24.36	P<0.01	0.43
Post-test separator	1236.33	1	1236.33	8.23	P=0.006	0.19
Group	7173.85	1	7173.85	47.75	P<0.01	0.43
Error	9162.1	61	150.19			
Sum	550478	64				
Total	16482.43	63				

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