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Original Article

Effect of Spiritual Care on Hope and Self-Transcendence of Mothers of Premature Neonates Hospitalized in the Neonatal Intensive Care Unit

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ABSTRACT

Background: Premature birth and hospitalization in Neonatal Intensive Care Units (NICUs) is a critical issue for parents, especially mothers. The present study aimed to investigate the effect of spiritual care on hope and self-transcendence in mothers with premature newborns hospitalized in the NICUs.

Methods: This quasi-experimental, single-group study was conducted using time series analysis. The sample consisted of 30 mothers with premature neonates hospitalized in Shahid Beheshti Hospital, Maraqeh, Iran. The participants were selected through a convenience sampling method following the inclusion criteria. The data were collected using the demographic characteristic forms of mothers and the clinical status of infants, as well as the hope and self-transcendence scales of the mothers with premature neonates admitted to the NICU. The data were analyzed in SPSS software (version 19) through descriptive statistics (i.e., frequency distribution, mean and standard deviation) and repeated measures analysis of variance (ANOVA).

Results: The findings show a significant difference among the pre-test, post-test, and follow-up stages in terms of the mean scores of hope and self-transcendence using repeated measure ANOVA (P<0.001). Moreover, in examining the effect of spiritual care on hope and self-transcendence in mothers, the results of repeated measures ANOVA showed that there was a difference among the pre-test, post-test and follow-up stages in terms of the mean scores of mothers' hope, (P<0.001, F=53.133, and Eta-squared=0.639). Moreover, a significant difference was observed among the pre-test, post-test, and follow-up phases regarding the mean scores of self-transcendence (P<0.001, F=131.239, and Eta-squared=0.814).

Conclusion: Since spirituality can lead to an increase in hope and self-transcendence of mothers with premature infants hospitalized in the NICUs, this approach can be used as an appropriate intervention method to help improve their adaptation and peace of mind. Therefore, barriers to providing these types of care and managing them must be identified so that nurses in the NICUs can use them.

Keywords: Hope, Mothers, NICU, Premature infant, Spiritual care, Transcendence

Introduction

According to the investigations made by the World Health Organization, about 25 million low-birth-weight neonates are born each year. In other words, one out of six newborns is born prematurely with low weight all around the world. Moreover, in 5%-15% of the pregnancies, the infant is born premature (1). According to the statistics by the Ministry of Health, there are 1,600,000 births annually, 8%-12% of which are premature births. The mean rate of premature birth is 10%, and there are 160 premature births in Iran annually. In recent years, this rate has decreased to 8% by taking necessary measures and care provision (2).

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The studies conducted in Iran and other countries have shown that prematurity at the time of birth is the most common cause of neonatal death (3). Premature labor and care provision for the infant is a stressful incident that affects the quality of life in parents, particularly mothers. Moreover, it is considered a sensitive and risky situation, as well as an emotional crisis (3). One of the approaches to improve hope and self-transcendence is addressing spirituality and spiritual care. When people face difficulties in life, they often seek help from a superior power as a way of coping and adaptation (4-8).

The long procedure of treatment and care provision leads to the experiences of conflicts and disharmony among the caregivers' hope, values, and belief in God. Therefore, the mother faces a spiritual crisis due to some reasons, such as an inability to justify the disease, doubting the divine justice, and thinking of the disease as a punishment for past sins. As a result, the caregiver is kept away from performing religious and spiritual practices, and his/her communication with God becomes limited (9).

According to a study conducted on the relationship between spiritual health and stress in mothers with premature infants hospitalized in the Neonatal Intensive Care Units (NICUs), one type of their needs turned out to be the spiritual ones (10). Parents whose neonates are hospitalized in the NICU experience more anxiety and stress, compared to parents of healthy infants (11). Accordingly, mothers with a premature infant are mentally supported by raising the mother's awareness of prematurity and meeting her needs regarding the infant (12). Given the importance of the mother's role in addressing the neonatal needs, care providers should consider mothers the primary goal of interventions to make them capable of coping with the crisis while accepting the prematurity and reducing the threats to their health (13). One of the strategies that address the mental needs of mothers with infants in the NICU is to provide spiritual care that develops hope and control over stress as an effective defensive mechanism (14). Based on religious philosophies, parents, especially mothers, believe that the existence of a problem is a way to achieve more bliss and faith. This belief is a positive facilitator in mothers' adaptation (15). In a study conducted by Nikseresht, the nature of spirituality and the provision of spiritual care were presented as a solution to overcome the crisis caused by the diagnosis of diseases in the newborns and the initiation of the treatment process (16).

Studies on the effectiveness of spiritual care have been conducted more on the mothers of children with chronic diseases and less on the outcomes, such as hope and transcendence. Considering the unique situation of the NICUs and neonate prematurity as a shocking problem, it is necessary to carry out a study in this regard. Therefore, the present study aimed to investigate the effects of spiritual care on self-transcendence and hope in mothers with premature neonates hospitalized in the NICU at Shahid Beheshti Hospital, Maraqeh, Iran.

Methods

This quasi-experimental, single-group study utilized time series analysis and was conducted in Shahid Beheshti Hospital, Maraqeh, Iran, from October 2018 to March 2019. Due to the use of a single-group design, blinding was not performed in this study. The study population consisted of mothers with premature neonates hospitalized in the NICU. According to the following formula, 30 mothers participated in the study:

$$n=\frac{2\left(z\frac{a}{2}+z1\text{-}B\right)^2 s^2(1-P)}{ms\frac{2}{t}d^2}=30$$

The mothers whose neonates were hospitalized in the NICU of Shahid Beheshti Hospital, Maraqeh, Iran, during the study were chosen using a convenience sampling method based on the inclusion criteria. It is worth mentioning that informed consent was obtained from them for participating in the study. The included mothers had premature neonates born at 28-34 weeks' gestation, and they were Iranian and Muslim. According to the self-reports, they had not suffered from depression or other psychological disorders and had never had a premature infant hospitalized in the NICUs before. On the other hand, the newborns with congenital anomalies and disabilities, those who were in the end-of-life stage and were transferred to other centers, and the neonates whose mothers were absent in more than one intervention session were excluded from the study.

The data were collected using the demographic characteristic form covered such information as mother's age, education level, occupational status, and the adequacy of family income along with the clinical status of the newborns, including age, birth order, birth weight, and the number of siblings. Moreover, the "hope scale of mothers of

premature neonates admitted to the intensive care unit" designed by Panjvini et al. (2015) was used to estimate the mothers' hope.

This scale consists of 39 items, which is scored using a 5-point Likert scale from 5 (strongly agree) to 1 (strongly disagree) with four subscales, including "feeling valued", "feeling of motherhood", "feeling of peace", and "feeling of positive energy" (17). The total score ranged from 39 to 195. To measure the self-transcendence in mothers, the Self-Transcendence Scale was translated and validated by Shirin Abadi Farahani et al. in 2016. This 15-item instrument consists of two subscales, namely self-acceptance and maturation. A 4-point Likert scale is used to score the items and the self- transcendence score fall between 15 and 60 (18).

To measure the content validity of the tool, the questionnaires were presented to 10 experts who were professional in the fields of spirituality, hope, psychometrics, and neonatal nursing. Subsequently, they were requested to examine the questionnaire in terms of conceptual coverage, writing style, sentence structure, as well as logical and appropriate format.

Moreover, in order to assess the face validity of the questionnaires in this study, the opinions of 10 mothers with premature infants were utilized in terms of the readability and clarity of the items. In this study, Cronbach's alpha coefficients were estimated at α=0.91 and α=0.79 for the hope and self-transcendence scales of the mothers with premature infants, respectively.

In this study, in-person and face-to-face interventions (19) were performed in the training room of the NICU in Shahid Beheshti Hospital, Maraqeh, Iran, so that the mothers would not feel distressed and anxious due to the absence of their infants. The first author conducted the intervention from 10:00 to 13:00 every day in four 45-minute sessions. It should be noted that the student had received the necessary training in the field of spiritual care at the Spiritual Health Research Center directly under the supervision of the center's trainers and had obtained the certificate. The sessions were held within four consecutive days at the scheduled time. The spiritual care program was developed according to the protocol presented in the study (16) and reviewed by a team of supervisors and advising professors with a scientific and research background in spirituality and spiritual care provision.

The first session included the introduction of the researcher, getting acquainted with the mother and the infant, getting familiar with spirituality and its importance, presenting the schedule of training sessions and the number of the intervals between sessions, and performing the pre-test by completing the questionnaires (20) beside the neonates' incubator.

The second session was held focusing on the purposefulness of creation by giving privacy to the mothers and paying attention to their verbal and nonverbal behaviors (21). In this session, the mothers' spiritual concerns were discussed by asking questions regarding the effect of religious and spiritual beliefs while facing problems, such as the infant's illness and its recovery process (22). They were also asked about which rituals (i.e., saying prayers and mantras, or reading the holy Quran) provides spiritual peace for them (16). Moreover, the definition of the purpose and the meaning of life, the purposefulness and meaningfulness of creation in the view of Islam, and the Quran's definitions of the hardships of mundane life as divine tests and patience toward them were discussed in this session. The researcher was available whenever the mother needed her (23, 24). If a mother felt tired, the meeting was temporarily terminated or rescheduled.

In the third session, entitled "Faith, Gratitude, and Satisfaction" while respecting the religious beliefs of the mothers and preparing a proper place for performing rituals and religious ceremonies, discussions were made about prayers, faith, patience, and fortitude to encourage the mothers to feel closer to God by performing rituals, such as praying (23). Accordingly, the definition of faith, its place in Islam and its application in life, and the importance of gratitude, satisfaction with destiny, patience, and endurance (25) helped them in this regard.

The fourth session focused on the content of prayers and expressing hopes (26) during which the researcher answered the mothers' questions while giving them hope and boosting their morale using sentences, such as "I hope your baby responds well to the treatment and you get good results" (16). In addition, by holding the mother's hand and giving her a hug (27), they expressed their fear of losing the child by sentences, such as "I cannot imagine the life after his/her death" or "I sometimes think that God has forgotten me".

In return, mothers expressed their fear of losing their babies, as well as their concerns, such as "I cannot imagine how to survive after his/her death" or "sometimes, I feel that God has forgotten me" (24). At the end of the session, after making conclusions, ending the meetings, and asking for

mothers' opinions (28), the questionnaires were distributed and the post-test was performed. During this session, the questionnaires were distributed among the mothers by one of the ward's employees so that the mothers would avoid any biases and fill out the questionnaires regardless of the researcher's efforts.

The researcher again completed the questionnaires 3 weeks after the last session of the intervention. After this period, if the mothers did not visit the clinic for follow-up control, the researcher visited them at home and provided them with questionnaires to be filled out. During the follow-up period, none of the newborns died or developed complications. The spiritual care program was formulated based on the protocol presented (16) and revised by a team of supervisors and counseling professors with scientific and research background in the field of spirituality and spiritual care provision. The researcher then implemented it. In the present study, the formulation and application of the protocol (16) with the approach of spiritual care and focus on the topics emphasizing spirituality (i.e., the purposefulness of creation, showing patience in divine tests, gratitude, and satisfaction) leads to increased hope and self-transcendence in the sample group.

All mothers who were selected based on the inclusion criteria answered the questionnaires. The data were analyzed using descriptive and inferential statistics. In order to describe the data, the frequency, percentage, mean, and standard deviation were also calculated. To test the hypothesis, a repeated-measures analysis of variance (ANOVA) was performed regarding the number of variables.

A three-week interval has been considered to investigate the sustainability and effectiveness of the intervention (16). According to the doctor's discretion and the ward's routines, the mothers visited the ward once in the first week after the discharge and once in the third week to perform follow-ups for the newborns. Therefore, the follow-up stage was performed after three weeks. In addition, since eight mothers did not visit the clinic for follow-ups, the researcher looked up their addresses through the ward's documents and visited them at home in order to complete the questionnaire. Data were analyzed in SPSS software (version 19). In parametric statistical methods, such as ANOVA, data should have a normal distribution. Therefore, the Kolmogorov-Smirnov test was carried out in order to examine data normality. A p-value less than 0.05 was considered statistically significant.

Ethical Considerations

This study was extracted from an MA thesis in nursing approved by the Research Deputy of Shahid Beheshti School of Nursing and Midwifery, Maraqeh, Iran (No,15953 and the ethical code of IR.SBMU.PHARMACY.PEC.1397.153) and registered in Iranian Registry of Clinical Trials (IRCT.2018 1117041679N1). The research procedures and objectives, as well as the duration of the study, were explained to the mothers, and written consent was obtained from them. They were also ensured that they could withdraw from the study whenever they wanted and that this research was not carried out in contrast with the religious and cultural standards of the participants.

Results

The majority of the participants were 28-37 years old (54.8%) and had an under diploma education level (64.5%). In total, 32.3% of the neonates belonged to the weight group 900-1300 g during the research. Table 1 summarizes other

Table 1. Frequency distribution of mothers' demographic characteristics and infants' clinical status in the NICU of Shahid Beheshti Hospital, Maraqeh, Iran, during 2018

Variable	Frequency	Percent
Mother's age		
18-27	13	41/9
28-37	16	54/9
38-47	1	3/2
Education level		
None	1	3/2
Under diploma	20	64/5
Above diploma	9	32/3
Occupational status		
Housewife	26	87/1
Employed	4	12/9
Level of income		
Sufficient	13	44/5
Insufficient	3	7/9
At a sufficient level	14	47/6
Birth order of the hospitalized neonate		
First-born	14	45/2
Second-born	9	29/2
Third-born	7	25/6
Birth weight		
900-1300	10	32/3
1301-1600	6	19/4
1601-1900	6	19/4
1901-2200	6	19/4
2201-2500	2	9/5
Overall	30	100

Mean=2.5484
SD=1.38657

Table 2. Mean±SD of hope and self-transcendence and its subscales in the pre-test, post-test, and follow-up stages

Test Stages	Pretest		Posttest		Follow-up	
	Mean±	SD	Mean±	SD	Mean±	SD
HOPE	121.97±	27.48	155.55±	10.39	159.90±	9.59
Self-transcendence	38.29±	4.38	47.39±	2.54	49.48±	3.09

Table 3. Results of the repeated-measures ANOVA showing the effect of spiritual care on hope and self-transcendence

Test Repeated Measure	Sum of Squares	Df1	Df2	Mean Squares	F	Level of Significance	Eta Squared
Self-transcendence	2295.312	2	60	1147.656	131.239	.000	.814
Hope	26719.161	2	60	19792.531	53.133	.000	.639

demographic characteristics of the mothers and the clinical status of the infants.

The results presented in Table 2 show a significant difference in the mean scores of self-transcendence among the pre-test, post-test, and follow-up stages (P<0.001). Moreover, self-transcendence shows an increase in the significance level of each stage, compared to the previous stages.

In addition, there is a significant difference in the mean scores of the mothers' hope among pre-test, post-test, and follow-up stages (P<0.001). The ANOVA was performed to investigate the impact of spiritual care on maternal hope and self-transcendence. The results show a significant difference in the mean scores of maternal hope among pre-test, post-test, and follow-up stages (P<0.001, F=53.133, and Eta-squared=0.639). In other words, the impact of spiritual care on the mothers' hope has been constant over time. There is also a significant difference among pre-test, post-test, and follow-up stages regarding the mean scores of self-transcendence of mothers (P<0.001). The results of repeated measures ANOVA are presented to study the effects of spiritual care on self-transcendence. These results show that there is a significant difference among pre-test, post-test, and follow-up stages in terms of the mean scores of self-transcendence (P<0.001, F=131.239, and Eta-squared=0.814). Therefore, it can be concluded that spiritual care has a significant impact on self-transcendence (Table 3).

The trend diagram illustrates the mean scores of hope and self-transcendence in the pre-test, post-test, and follow-up stages indicating a significant and somehow strong difference over time. The scores of self-transcendence in the pre-test were significantly different from those in the post-test and follow-up. Similarly, there is a significant difference between the post-test and follow-up stages regarding the levels of self-transcendence. Moreover, the mothers' hope

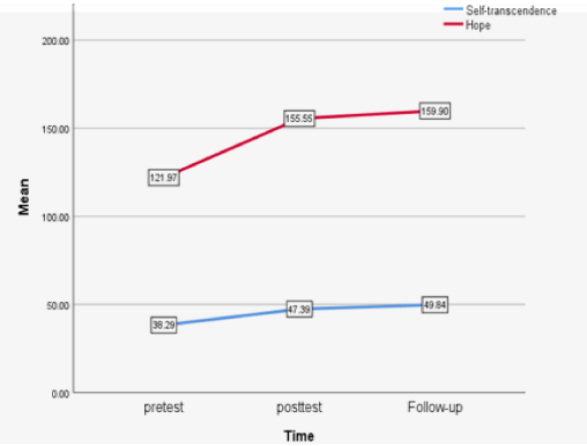

Figure 1. Mean scores of self-transcendence and hope of mothers in the pre-test, post-test, and follow-up stages

scores in the pre-test were significantly different from those in the post-test and follow-up stages. In the same line, a significant difference was observed between the post-test and follow-up stages regarding mothers' hopes. As shown in the graph, there is a significant and almost strong difference over time in this regard (Figure 1).

Discussion

This study investigated the impact of spiritual care on two aforementioned variables (i.e., self-transcendence and hope) in order to prove the hypothesis that spiritual care can increase hope and self-transcendence as factors related to mothers' adaptation to the crisis caused by premature birth.

As a multidimensional construct, "hope" improves one's adaptation to life threats while facing problems. Therefore, a greater amount of hope leads people to better overcome their problems. Hope is associated with the meaning and value of life which empowers people to adapt to stressful situations and maintain the quality of life. The lack of hope will make people vulnerable to problems (29). The findings of the present study on the impact of spiritual care on mothers'

hope showed a significant difference among the pre-test, post-test, and follow-up phases in terms of the mean scores of the mothers' hope. In other words, the impact of spiritual care on mothers' hope was constant over time. In this regard, a study was conducted by Nikseresht et al. on the effect of spiritual care on the mothers of children with cancer.

According to the results, there was a significant statistical difference before and after the intervention and also at the follow-up stage regarding the mean scores of the mental health, which was consistent with the findings of this study (16). Spirituality and spiritual care can grant hope and the valuation of life to the caregivers of patients. According to Tang, addressing religious and spiritual practices is one of the most effective coping strategies that caregivers of patients adopt to reduce distress and increase their hope (30). Several studies have shown that spiritual care reduces the psychological distress in mothers with ill children by reducing the feelings of guilt, anxiety, anger, and disappointment followed by increasing their inner peace, which ultimately increases their hope (14, 31, 32). The relationship between spirituality and hope among the caregivers of patients is often significant, which suggests that faith and belief in God and a superior entity. This belief that life is purposeful can lead to an increased level of hope (33).

According to a study performed by Dilek, even in the NICU, where there are parents with premature neonates, spiritual care can affect the religious and spiritual beliefs in their lives, enhance their morale, and increase their hope for their baby's recovery. In such tough situations, the parents of a premature neonate hope for divine intervention and praying for miracles concerning their religious beliefs. For these parents, hope is a divine cure which facilitates it for them to endure the crisis (34).

In line with the findings of this study, a study conducted by Green showed that spiritual care could increase hope in mothers of neonates in the NICU (35). In a study carried out by Nemati et al. on a various range of spiritual challenges faced by the family caregivers of cancer patients, the findings revealed that family caregivers are facing a range of spiritual challenges, where there is a spiritual crisis on one hand and spiritual coherence on the other hand.

In other words, some findings of this study show that spiritual coherence, including inner peace and trust in God, is a need among caregivers and is addressed in the form of rituals, such as prayers, faith, and trust (9), which is consistent with the findings of the present study.

On the other hand, spirituality appearing in the form of a spiritual crisis leads to disappointment in caregivers, which contradicts the findings of this study (36). Although disappointment can be a result of spiritual doubts, it can spread these doubts by itself, thereby leading to a spiritual crisis. Meanwhile, faith and trust in God or any other spiritual power along with praying may empower faithful individuals and help them endure the difficulties of life by developing hope.

The findings of this study show that self-transcendence has significantly increased in all stages of the study, compared to previous stages. In this regard, studies have been conducted on patients with various diseases. The positive impact of spiritual care on self-transcendence is confirmed in some of these studies (37), whereas other studies showed no impact of spiritual care on self-transcendence (38). According to the literature review, no study has focused directly on self-transcendence in mothers with ill children; however, few studies have been performed on the other family caregivers. For instance, in a study conducted on the family caregivers of cancer patients, the findings showed that these caregivers experienced some degrees of transcendence as a result of their positive perception of spirituality and having spiritual coherence (9). On the other hand, according to the definition of self-transcendence, in some studies, the concept of growth or post-traumatic growth has been utilized that semantically overlaps with this concept. Growth is a positive psychological change that one experiences while facing a stressful incident in life (39). Therefore, in studies conducted on the caregivers of patients, self-transcendence is often semantically replaced by the concept of growth.

Religiosity has an extensive and significant influence on human behavior and well-being, and being religious affects the experience of caregivers. In Iran, considering that 98% of the people are Muslim, in line with Iranian outlook for strategic health plan emphasizing on the promotion of psychological-spiritual health of Iranians by 2025, religious approaches are used as ways to improve the health of patients and families (40, 41). Accordingly, it is of great importance to focus on spiritual issues in the care process (40).

Although the findings of this study show that

spirituality and spiritual care are a great source to promote hope and self-transcendence, not much attention is paid to spirituality and spiritual beliefs in the hospitals, including NICUs. Various causes, such as the lack of sufficient knowledge and skill in this field, lack of executive instructions for the implementation of spiritual care, high number of patients and insufficient time to provide this care in shifts, and their inadequate training may be associated with nurses' ignoring spiritual care (18). Parents believe that in the most disappointing situations, paying attention to spirituality is a powerful, promising, and hopeful source, which provides a new way of acceptance and coping with reality. In such circumstances, parents show a willingness to hold religious meetings, praying and saying mantras, performing religious rituals, and placing symbolic religious objects within the incubators (42).

Among the limitations of this study are non-random sampling and lack of a control group due to the small number of the samples. Therefore, it is recommended to use randomized clinical trials for future studies.

Conclusion

Due to the positive impact of spiritual care on hope and self-transcendence in mothers with infants hospitalized in the NICUs, it is suggested that in addition to other types of care, nurses pay attention to the spiritual dimension of care as an aspect of human existence, which can influence its overall health. In line with the conducted studies and the identification of some barriers in providing such care by nurses in Iran, it is suggested that managers take measures to overcome these barriers and plan to implement these types of care. It is also recommended to perform studies on the impact of this type of care on the mothers of the children with other diseases by taking other variables into account as the outcomes of spiritual care provision.

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Conflicts of interest

The authors declare no conflict of interest.

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