The Effects of Spiritual Self-Care Training on Feeling of Comfort in Mothers of Hospitalized Preterm Infants

Tayebe Reihani (MSc)¹, Zohreh Sekhavat Pour (MSc)²*, Mohammad Heidarzadeh (PhD)³, Seyed Mehdi Mosavi (PhD)⁴, Seyed Reza Mazloom (PhD)⁵

¹ Department of Pediatric Nursing, School of Nursing and Midwifery, Mashhad University of Medical Sciences, Mashhad, Iran
² School of Nursing and Midwifery, Mashhad University of Medical Sciences, Mashhad, Iran
³ Associate professor, Department of Neonatology, School of Medicine, Tabriz University of Medical Sciences, Tabriz, Iran
⁴ Cancer Research Center, Shahid Beheshti University of Medical Sciences, Tehran, Iran
⁵ Department of Medical Surgical Nursing, School of Nursing and Midwifery, Mashhad University of Medical Sciences, Mashhad, Iran

A R T I C L E   I N F O

Article type: Original article

Article History:
Received: 24-Dec-2013
Accepted: 23-Feb-2014

Key words:
Mother
Preterm infant
Spiritual self-care training
Spirituality

Background & aim: The stress resulting from premature delivery and the related neonatal care induces psychological and physical pressure on the mothers, and adversely affects their feeling of comfort. It seems that spiritual care as a sort of communication with a higher power (God) can bring peace to the stressed mothers, and prevent anxiety. Therefore, this study was designed to evaluate the effects of spiritual self-care training on feeling of comfort in mothers of preterm infants, hospitalized in the neonatal intensive care unit (NICU).

Methods: In this randomized clinical trial, 60 mothers of preterm infants hospitalized in NICU of Omolbanin and Ghaem hospitals, Mashhad, Iran in 2013, were selected, using convenience sampling, and were randomly assigned to intervention and control groups. In order to familiarize the mothers with their infants’ condition, the mothers in both intervention and control groups were informed and trained for 15 minutes every day, over a 14-day period. The intervention group, in addition to infant-related information, received spiritual self-care training for 45 minutes in 6 sessions, every other day. Before and after each session of self-care training, the mothers filled a self-structured questionnaire related to feeling of comfort resulting from spiritual care. Data were analyzed using SPSS version 16, by repeated measures analysis of variance (ANOVA), t-test, and Chi-square tests.

Results: According to the results, the total mean of maternal feeling of comfort was 50.0±4.3 and 55.6±3.3 before and after the intervention, respectively. The results of t-test indicate that comfort significantly increased after the intervention (P=0.000).

Conclusion: Based on the results of this study, spiritual self-care training increases the feeling of comfort in mothers with premature infants, hospitalized in NICU.

Introduction
Approximately, 13 million premature infants are born every year, worldwide (1). Not only has the rate of premature birth not reduced in the past 40 years, but has increased in the recent two decades, despite the advances in obstetric care (2). The global toll of premature birth is 9.6%, an estimated 12.9 million infants a year, and most of these cases are concentrated in Africa and Asia (3).

The rate of premature birth is approximately 9-12% in the U.S.A, and 5-7% in Europe. In 2008, Egan and colleagues reported the incidence of preterm birth between 5% to 12% in developed areas, and up to 40% in poor regions (4). According to the report by World Health Organization (WHO) in 2009, 3,438 cases

* Corresponding author: Zohre Sekhavat Poor, School of Nursing and Midwifery, Mashhad University of Medical Sciences, Mashhad, Iran. Email: sekhavatz901@gmail.com
(5.7%) of premature infants were born, and the mean hospital stay of these infants (less than 32 gestational weeks) was 35 days (3-5).

Iran is among the countries with high incidence of preterm labor, with an estimated pre-term rate of 10% (6). Every day, 5,000 infants are born, among which about 12% are low weight neonates (7).

Unfortunately, despite the extensive efforts to prevent the incidence of preterm labor, prematurity, and low weight infants, the rate of such births is high. These births are associated with neonatal hospitalization and the separation of the infant and mother from the family. In these cases, the infant may be admitted to the neonatal intensive care unit (NICU) for a long period. The neonatal hospitalization makes the mother less confident about her parental role and her abilities to identify/eliminate the neonate’s problems, therefore, the family experiences a sense of loss with such births, and the mother-infant emotional communication is impaired (8).

Studies have shown that the mothers, who were separated from their infants, had high levels of stress, anxiety, and depression (9). Approximately 70% to 80% of the mothers of preterm infants had high levels of psychological stress, which is usually expressed as fear, restlessness, crying, sense of guilt, anxiety, irritability, depression, concentration problems, and frustration (10, 11).

Due to the need for constant care and the necessity to meet the requirements for preterm infant development, mothers are stressed by factors such as the neonates’ small size and low weight. Moreover, mothers’ performance is weakened due to lack of involvement and participation in infant care, which leads to feelings of inadequacy, anxiety, depression, and change in parental role; even the transfer of the neonate to the house causes anxiety, which may continue up to 2 years after birth (12, 13).

On the other hand, lack of attention to parental emotional and mental distress leads to their loss of interest in neonatal care at the time of discharge, and increases the neonates’ and parents’ vulnerability (14). Accordingly, due to the stressful and critical state of the mother and her uncertainties about the future, sometimes her self-confidence is decreased, her faith is compromised, and her interpersonal communication is interrupted; moreover, the adjustment mechanisms become insufficient which may induce a sense of loneliness in the mother. In one word, the individual suffers from spiritual crisis (15).

Spiritual turmoil causes grief and sorrow in an individual, and can eliminate treatment motivations (15). This is due to the anxiety and spiritual distress, which lead to discomfort associated with problems such as pain, low self-esteem, loneliness, fatigue, frustration, and anger (16).

Spirituality as a coping strategy has positive effects on an individual (17). In this regard, Qur’an says “And when some hurt touches man, he cries to his Lord, turning to Him in repentance” (Quran, Zumar Surah, Verse 9). In face of life difficulties, spirituality becomes a shelter for people and protects them against problems and privations. Therefore, one’s personal belief is important at the time of illness (18).

Spirituality, accompanied by religious rituals such as prayer, plays an important role in coping with sickness (19). Matthaus believes that encouraging people with critical health conditions to pray and observe religious practices can be effective in their treatment (20). Gatlin and his colleagues in a study revealed that despite the high significance of spirituality and religion for the parents of preterm infants and their caregivers, they are often ignored in the NICU.

Parents also believe that in face of most helpless situations, spirituality, (prayer to God) as a powerful, stable, and hopeful source, helps them accept and cope with their problems. Also, the majority of caregivers in the NICU believe that spiritual and religious beliefs (such as prayers) are a great source of comfort to parents with premature infants (21). In one study, it was revealed that 90% of families believed that spirituality is effective in improving their neonates’ health conditions (22).

However, after three decades of religious and Islamic promotion in the Iranian community, no sufficient information and documentation is at hand regarding the spiritual health of this vulnerable group. Moreover, no study has been conducted concerning the effects...
of maternal spiritual beliefs at different levels, as independent factors for maternal outcomes (such as physical, mental, and health outcomes). Therefore, the present study was performed to determine whether spiritual self-care training can be effective in improving the feeling of comfort in mothers with premature infants.

**Materials and Methods**

This randomized clinical trial was conducted on 60 mothers of preterm infants hospitalized in NICU of Omolbanin and Ghaem hospitals, Mashhad, Iran in 2013, who were selected using convenience sampling, and were randomly assigned to intervention and control groups.

The sample size was calculated considering the pilot study and using mean comparison, with confidence coefficient of 95% and power of 80%; a total of 12 samples were estimated. In order to be able to generalize the results to a greater population, and by considering the interventional nature of the study and the possibility of sample dropping, 60 patients were selected for this study (30 subjects were allocated to each group).

The mothers who met the following criteria were included in the study: 1) having a premature infant between 28 to 36 weeks of gestation, 2) being an Iranian citizen, 3) being a Muslim, 4) primary school education (minimum), 5) fourteen days (at least) of neonatal hospitalization in NICU, 6) lack of definite depression diagnosis, 7) non-use of antidepressants or narcotics, and 8) no previous history of premature infant hospitalization in NICU. The exclusion criteria were as follows: 1) neonatal death, 2) congenital malformations, 3) discharged earlier than 14 days, 4) having twins, and 5) lack of maternal participation in at least five training sessions.

The convenience sampling method was used, and the subjects were randomly assigned to intervention and control groups, based on the table of random numbers (one digit numbers from 0 to 9). The data collection tool was a researcher-made demographic questionnaire, and a form regarding the mother's feeling of comfort as a result of spiritual self care (researcher-made).

The validity of demographic questionnaire and the form of spiritual self care was approved through content validity by seven faculty members of Mashad University of Medical Sciences. To determine the reliability of the spiritual self-care form, Cronbach’s alpha was used, and a coefficient of 0.78 was obtained.

In order to collect the data, after visiting the hospitals, the qualified mothers were identified in NICU. After stating the objectives of the study, the consents to participate in the study were obtained from the mothers. As the mother settled in the ward (within the first 5 days of neonatal admission), she was informed about the condition of her infant for 15 minutes every day. Mothers in the intervention group underwent spiritual self-care training every other day for 6 sessions, over a 2-week period (3 times a week, on even days, during morning and evening shifts, for a total of 45 minutes). Before and after self-care training sessions, the mothers completed the spiritual self-care forms (with a scoring scale of 0 to 10, with 0 denoting “no feeling of maternal comfort” and 10 showing “mother’s complete sense of comfort” due to spiritual self-care training). The spiritual care training was concerned with various concepts such as “trust in God”, “intercession”, “patience”, “charity” (altruism and forgiveness), and “invocation”, approved by Muslim clerics. In addition, some spiritual interventions proposed by Richards and Bergyn (2005), were considered (23). The six training sessions, which were performed face to face in the intervention group, are described in detail in the following paragraphs. The first session was with respect to the concept of “trust in God”. The training included introduction to the theoretical concepts of trust, understanding its role and influence on coping with problems and psychological stress, influential beliefs (such as believing in the presence of God), and informing the mothers about the related theoretical concepts (such as the implications of trust, its values, degrees, steps, effects, and impact on the management of stressful conditions). During the second session, the mothers were informed about the concept of “intercession”. The training included the following subjects: introduction to the theoretical concepts of intercession; understanding its role and influence on coping with problems and psychological stress; influential beliefs (such as familiarity with the
universe and the power of saints and angels); training related to the theoretical concepts of intercession (such as the implications of intercession and its types); familiarity with shrines, books, and written prayers; the methods of pilgrimage; the impact of intercession on negative thoughts; and providing examples of healing by intercession. In the third session, the concept of "patience" was introduced to the mothers. The training sessions included the following subjects: familiarity with theoretical concepts such as the notion of patience, its value, types, degrees, and role in coping with stressful factors; its influence as a coping strategy in face of stress; influential beliefs such as believing in the presence of God; familiarity with the philosophy of suffering, hardship, and divine justice; and the effect of patience on changing the individuals' negative thoughts, and coping with stressful factors. During the fourth session, the subjects were trained on the concept of "charity". The training included familiarity with the theoretical notions of charity, familiarity with its impact on the psychological state and social and interpersonal relationships of an individual, and influential beliefs (such as believing in the presence of God, fate, and resurrection). In the fifth session, the mothers were educated on the concept of "worship". The training sessions included the following subjects: familiarity with the theoretical notions of worship such as prayer; the value and importance of worship and its philosophy; familiarity with its proper practice; understanding its impact on one's relationship with God, self, others, and the universe; understanding its effects on coping with life events, problems, and negative emotions and thoughts; influential beliefs, such as the significance and impact of believing in God; correcting false beliefs regarding prayer and compliance; familiarity with the resources and practice; the methods of prayer and worship; and individual and collective training. During the sixth session, the concept of "invocation" was introduced to the participants. The training included the following subjects: familiarity with the methods of invocation; its impact on emotional and behavioral states; the related beliefs such as believing in the presence of God, his permanent presence, and absolute power; types of invocations and their translations; familiar invocations to the mothers; and resulting changes in people's beliefs and emotions.

In the control group, mothers were provided with infant-related information and knowledge about the health status of their infants, and their questions were answered every day for 15 min; no intervention was performed except the routine care. The form was completed by the mother at the beginning and end of 14 days. Also, infant-related information was similar to the intervention group.

In order to analyze the data, the statistical tests of Kolmogorov-Smirnov, Shapiro-Wilk, independent t-test, Chi-square and Repeated Measures ANOVA were performed, using SPSS v16. In all tests, the confidence coefficient and test power were considered 95% (significance level of 5%) and 80%, respectively.

Results

The mean age of the mothers was 25.0±7.2 and 26.5±5.5 yrs in the control and intervention groups, respectively (within the age range of 15-41 years). Also, the mean of education years was 11.0±3.4 and 10.6±4.0 in the control and intervention groups, respectively. The results of independent t-test showed that both groups were similar in terms of these two variables. In addition, the child rank in the family, the number of family members, family income, and gestational age were not significantly different among the groups.

Overall, 83.3% (25 patients) and 93.3% (28 patients) of the subjects in the control and intervention groups were housewives, respectively, and the rest were employees. Also, 96.7% (n=29) of the spouses in the control group and 100% (n=30) of them in the intervention group were employees. Overall, 88.3% (53 cases) of the subjects in both control and intervention groups had emotional support, according to their own statements. About 56.7% (n=17) of the infants in the control group and 50.0% (n=15) in the intervention group were males.

The results of Chi-square test showed no significant association between mothers’ occupation (P=0.424), spouses’ occupation (P=0.313), psychosocial support (P=0.688) and
According to the t-test results, comparison of the mean scores of mothers' feeling of comfort in the two groups showed no significant differences before the intervention; in fact, the two groups were similar \( (P=0.112) \). However, after the intervention, the mean score of the intervention group significantly increased, compared to the control group \( (P=0.000) \) (Table 1).

The results of ANOVA test showed that the mean score of mother's feeling of comfort was significantly different among the groups and different measurement stages \( (P=0.000) \). Meanwhile, the measurement stage had a significant effect on the mother's comfort \( (P=0.000) \), and also, there was an interaction effect between group and stage on the feeling of comfort \( (P=0.000) \); in addition, the group had a significant effect on the mother's feeling of comfort \( (P=0.002) \) (Table 2).

<table>
<thead>
<tr>
<th>Groups</th>
<th>Mean±SD</th>
<th>Independent t-test results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control (n=30)</td>
<td>51.0±5.5</td>
<td>( t=6.1 ) df=58 ( P=0.000 )</td>
</tr>
<tr>
<td>Intervention (n=30)</td>
<td>50.0±6.5</td>
<td></td>
</tr>
<tr>
<td>Total (n=60)</td>
<td>50.0±6.0</td>
<td></td>
</tr>
</tbody>
</table>

**Discussion**

Results indicate that in the intervention group, the total mean of mother's feeling of comfort significantly increased after the intervention, in comparison with the pre-intervention period. The rate of net changes in the mother's feeling of comfort increased \( (11.2\%) \), in comparison with the pre-intervention period. On the other hand, in the control group, the mother's feeling of comfort did not change over 14 days, though the mean slightly decreased. In addition, t-test results showed that the mother's feeling of comfort after the intervention was significantly higher than the pre-intervention period.

In the present study, extensive search was conducted in order to find studies on the same topic; however, due to lack of such research, the results of similar studies, which examined the impact of various factors contributing to feeling of comfort, were used.

According to Quran, remembrance of God, thinking about his greatness and philosophy of creation, admiring his presence, and appreciation of his blessings can comfort one's soul and soothe the heart \( (Quran, Raad Surah, verse 26) \).

Sharifnia et al. (2012) conducted a study on the effects of prayer on the spiritual health of 44 patients requiring dialysis. The results indicated that the mean effect of prayer on sedation and spiritual health significantly increased after the intervention, and the mean net changes increased to \( 10.7\% \) after the intervention. The results of the present study are in agreement with the mentioned study, considering the increase in feeling of comfort \( (11.2\%) \) (differences between the pre- and post-intervention rates in the intervention group).

The underlying reason for the observed similar increase can be due to sufficient maternal knowledge about the training content in the two studies; in both studies, the relaxation effect of prayers' content on feeling of comfort was analyzed \( (24) \).

In addition, Hojati (2010), who evaluated the effect of prayer on Huntington's disease patients, indicated that prayer and avowing increase human tolerance against diseases and disorders. According to his study, religious...
practice (prayer) helps individuals cope with difficult conditions, and results in the mental/psychological health of the patients. In fact, prayer helps patients control their seemingly uncontrollable conditions, which is of great importance in severe cases such as incurable diseases (25, 26).

Koyeng (2004) believes that religion helps people develop a positive attitude toward events and cope with life adverse events such as loss and disease. Through motivation, religion can assist the person in his/her life, and increase the person's tolerance and acceptance of changeable situations; moreover, it can be a great spiritual help to the person in many situations, for which science is unable to offer solutions (27).

Many studies have shown that praying increases the individual's tolerance against diseases and problems. Religious assistance (prayer) is the factor contributing to mental/psychological peace in an individual, and helps patients deal with severe issues. Prayer in seemingly uncontrollable situations can be a great assistance to patients, which is truly helpful in severe cases such as incurable diseases (25, 26).

Spirituality as a common strategy for fighting diseases and problems, has many effects on people's mental and physical health (28). Spiritual care includes every one; in fact, by accepting a religion, one is advised to develop spirituality (16). Accordingly, Carvalho and colleagues (2009) performed a study on decreasing depression in 59 mothers with preterm infants who were attending a hospital. The results of their study indicated that by providing psychological support for the mothers of premature infants through informing them about their neonates' status and increasing their awareness about prematurity, mothers' depression decreased; also, the mothers' level of situational anxiety increased (29).

In recent years, the mental health and knowledge level of people in terms of self care has increased. The parents are keen on gaining precise information about the status of their infants, and demand information about the expected changes in the physical condition of their neonates (30). Providing information for the parents helps them control the situation and therefore, they can participate more efficiently in infant care. Moreover, they form a realistic idea of their neonates' status (30).

The limitations of this study included the mothers' different spiritual beliefs which were not controllable by the researcher, and could affect psychological stress and life quality in mothers of preterm infants. Moreover, during training sessions, mothers were briefly prepared for the next session; following these training recommendations was quite effective during training. However, mothers were dissimilar with regard to their allegiance to these recommendations, which was again uncontrollable by the researcher.

Another limitation was related to mothers' concentration. Although the subjects did not have any cognitive/behavioral disorders, some mothers were not able to entirely focus on the training sessions, unlike other participants. To resolve this problem, a suitable time was selected in order to reduce distractions and increase mothers' listening skills. Moreover, mothers with stronger religious beliefs were examined in the intervention and control groups.

The results of this study can be used to improve nurses’ knowledge and practice in maternal care of mothers with premature infants. Since one of the goals of nursing service management in the NICU is health promotion of mothers with premature infants and improvement of medical care, authorities can apply these findings to implement programs of spiritual care for the mothers of hospitalized premature infants. Also nurses can apply this program to promote maternal mental health, and achieve the goals of nursing. In addition, understanding the results of this study increases the knowledge level of medical teams to implement training programs of spiritual self care as a useful method to enhance the feeling of comfort in mothers of premature infants admitted to NICU. Given the obtained information, these results can be applied in retraining programs of neonatal intensive care nursing and the educational programs for nursing students, particularly the course of mental health.

The results of this study can inspire further research in this area, including comparative evaluation of the effects of spiritual self-care.
training and cognitive/behavioral training on the feeling of comfort in parents of premature infants admitted to NICU, evaluation of the effects of spiritual self-care training of premature infants’ parents on reducing the length of NICU stay, and also evaluation of the effects of cleric-based and counselor-based self-care training on the feeling of comfort in parents of premature infants admitted to NICU.

**Conclusion**

This study shows that spiritual self-care training (six 45-minute sessions, for a 2-week period) can increase the feeling of comfort in mothers with hospitalized premature infants. Since the psychological aspects of this method have been approved in previous research it can be used as a feasible, effective, and cost-effective program. In addition, through training the family members, a rapid improvement can be observed in patients trained for spiritual self-care. Spiritual care targets the individual’s beliefs and affects important cognitive assessments in the coping process; it can also help individuals evaluate negative events with a different approach, and feel a stronger sense of control and satisfaction. This type of care is also compatible with Iranian culture and affects families and infants.

**Acknowledgments**

The present study is part of a MSc thesis in Neonatal Intensive Care Nursing, approved by the Vice chancellor for Research, Mashhad University of Medical Sciences, Mashhad, Iran (project code=911012). The authors would like to thank the Research Department of Mashhad University of Medical Sciences for financial support, lecturers at Mashhad School of Nursing & Midwifery for their academic guidance and support, the managerial boards of Omolbanin and Ghaem hospitals, and all the NICU staff for their cooperation.

**Conflict of Interest**

No conflict of interest exists.

**References**

The effect of spiritual self-care on mothers of preterm infant