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Effect of Sound Heart Model- based spiritual counseling on stress, anxiety and depression of parents of children with cancer

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Abstract

Background: Pediatric cancer as a traumatic event needs pastoral counseling for family compatibility. The aim of this study was to investigate the effect of spiritual counseling using Sound Heart Model on stress, anxiety, and depression of parents of children with cancer.

Materials and Methods: In this randomized, controlled, pre- and post-clinical trial, which was done in 2019, 72 parents of children with cancer from the armed forces family referred to the Baqiyatallah hospital and Children's Medical Center of Tehran were assigned into control and intervention groups by using block randomization method. Spiritual counseling was provided to the intervention group through virtual method by donating educational software included sixteen spiritual counseling sessions with emphasis on improving the relationships with God, self, people, and nature. Along with, training sessions were held once a week on the social network.For data collection, demographic questionnaire and Depression, Anxiety, Stress Scale (DASS 21) were completed before and immediately after the intervention by the participants. The T-pair test was used to compare each group before and after the intervention, the independent T-test was used to compare the two groups at each stage.

Results: The results showed no significant difference in the mean scores of depression ($p = 0.68$), stress ($p = 0.94$), and anxiety ($p = 0.66$) between two groups before the intervention. However, there was a statistically significant difference in the mean scores of depression ($P<0.001$), stress ($p = 0.003$), and anxiety ($p <0.001$) between two groups after the intervention.

Conclusion: Sound Heart Model- based spiritual counseling reduced the severity of depression and stress in parents and prevented the increase of anxiety in them.

Key words: Anxiety, Counseling, Depression, Neoplasms

Introduction

Cancer, as one of the most important health problems in societies, is the second leading cause of death in children around the world (1), and it is the main cause of death in 4 percent of children under five, and 13 percent of children between five and ten years old (2). Every year, more than 12,000 children face with stress of cancer (3). In recent years, due to advances in cancers treatment, the survival rate has clearly increased and 75 percent of children with cancer in the world and 30-50 percent of Iranian children with cancer can reach adulthood (4). Alongside physical complications (nausea, hair loss, fatigue, muscle aches, weight loss), cancer can create psycho-socio-spiritual distress in children, such as disruption in daily living activity and relationships with peers,

school loss, uncertainty about the prognosis, ambiguity about the treatment success rate, fear of death, and doubt about God's mercy (5).

Having a child with cancer can lead to emotional instability, uncertainty, and tension in family members, especially parents (6). Psychological studies have shown an increasing rate of emotional distress in parents (7-12) due to the child illness and his/her frequent hospitalization (13). Parents must live with double burden, that is, they should take care of other children and must cope with the family's emotional reactions (14). They have higher levels of depression compared with healthy children's parents (15-17), which reduces quality of life in these children (18). Mothers of children with cancer have psychological distress, such as disappointment, despair, anger, depression, anxiety, stress, and low quality of life (19-22) that can transmit tension and anxiety to children (10). They experience post-traumatic stress (PTSD) which reduces the children's psychological adaptation (17, 23). Parents' psycho-social hazards due to the child's suffering (24) reduce their health and adaptation (25). Although adaptation increases over the time, with relative improvement in child condition, but paying attention to the parents' needs, understanding parental performance and their compatibility are essential to be considered in oncology treatment plans (26). Compatibility is a protective behavior against physical and psychological harms (27) which can be enhanced by stress management programs (25).

Parents of children with cancers, as informal caregivers who play a central role in the management of various aspects of care, patient adaptation, and follow-up (28), may suffer from psychosomatic symptoms (muscle ailments), psychological distress (stress, anxiety, depression, anger, and fear), social challenges (limitation in parental role and life activities, changes in marital life), and spiritual distress (despair of God's mercy) (10). The main causes of these problems are the lack of specialized information and knowledge about the child's illness, cause of disease, and methods of maintaining health and alleviating patient and family suffering (29). Spiritual counseling can increase parental awareness about the children condition, patient care, and health promotion methods (28, 30).

Numerous studies in recent decades have shown that spirituality and belief in God's mercy, creates a sense of peace, calm, security, hope, and optimism toward the future (31, 32). Believing in God's power as a healer helps patient and family to find the courage to face the illness crisis and get rid of fears and anxieties about the future and sadness due to health loss (33). Faith (trust in God, assignment of life problems to God) can increase the family ability to continue living with greater power (34), cope with life stresses, and maintain their hope and stability in life crises (35). The Sound Heart (Ghalbe Salim) Spiritual Care Model, based on the religious spirituality (36) and in harmony with the Islamic societies culture, helps patient and family to achieve the spiritual health (sound heart)(37), have relaxed and confident soul, be full of trust, and have love, hope, happiness, contentment, and satisfaction (38) by discovering and using intrinsic capabilities of family members and their subjective norms and beliefs (39).The model improves positive confidence, ability to achieve purpose, and hope to the future by strengthening faith and belief in God's mercy and power (36). This model uses the positive effects of spirituality on bio-psycho- social health by the findings of psycho-neuron-immunology (40).

Although holistic approach emphasizes on care of patient's body and soul, nurses are expected to act as a spiritual counselors due to their close relationship with the patient and the family (41, 42) to increase control over the disease and improve family health (43). However, in clinical care, nurses neglect this important role for

different reasons, such as low spiritual self-awareness, fear of affecting personal beliefs of patients, time constraints, lack of spiritual care education (44), inability to determine the patients' spiritual needs, and difficulty in determining the spiritual counselor and the degree of reliability and accuracy of spiritual interventions (45). The medical team thinks that spiritual care is a part of the clergy's domain, so they often ignore spiritual care and leave it to the clergymen (46). According to the religious beliefs in Iranian people and considering the need to provide community-based and holistic care and family-centered health services, the purpose of this study was to investigate the effect of spiritual counseling based on Sound Heart Model on stress, anxiety and depression of parents of children with cancer.

Materials and Methods

This study was a randomized, controlled, pre- and post-clinical trial, which was conducted in 2018. Before initiation, this research was approved by the ethics committee of Baqiyatallah University of Medical Sciences (IRCT20130611013636N2 and ethics committee code number: IR.BMSU.REC.1396.560). This study was carried out on parents of children with leukemia, eye tumor, nervous system cancer, and Wilms tumor, who were chosen from the armed forces family referred to the Baqiyatallah hospital and Children's Medical Center of Tehran.

Participants were selected according to our defined inclusion criteria: being able to communicate and complete the questionnaire, being familiar with Persian language, have no history of addiction, chronic mental illness, and taking psychiatric drugs, do not participate in the similar research, and do not have other critical ill child. Written informed consent was obtained from each of the participant. Participants were assured about the confidentiality of their information.

Procedure:

The participants were randomly assigned to intervention and control groups by using block randomization method. The intervention was performed for the intervention group by donating educational software to them and holding training sessions once a week through the social networks. Both groups received routine care. At the end of the intervention, the questionnaires were completed by both groups and the results were compared. At the end of the study, the educational software was also provided to the control group.

Instruments:

Data were collected by:

1-Demographic questionnaire (12 questions), which includes two parts: A: Caregiver information such as, age, sex, marriage, education, family relationship, and illness .B: Patient information, such as duration of illness, type of cancer, ability to perform personal tasks, and the amount of care needed.

2- Depression, Anxiety, and Stress Scale (DASS 21) that assesses emotional reactions. This questionnaire was first developed by LoBiondo in 1995 (47). Crawford and Henry (2003) compared DASS 21 with two other instruments for a positive and negative affective tool. They concluded that the best result could be obtained when all three factors were considered simultaneously (48). Reliability of this scale in Iran was reported tested on a population sample in Mashhad (n = 400) and the following estimations were revealed: depression = 0.7, anxiety = 0.66, and stress = 0.76. The internal consistency of the scale was also reported by using Cornbrash's alpha (depression = 0.94, anxiety = 0.92, and stress = 0.89 (49).

Intervention:

The purpose of spiritual counseling is to create optimism, hope, and courage to face the crisis of disease, spiritual self-awareness, and development of social communication with love and forgiveness, and nature enjoyment (39, 50). Training

spiritual skills was conducted by provision of educational software. Parent's education was performed according to the algorithm of the Sound Heart Model (36). The intervention included sixteen spiritual counseling sessions with emphasis on improving the relationships with God, self, people, and nature. Each session lasted for 30 minutes. The training session was held once a week in the social network. The educational software included 16 PowerPoint presentations about cancer, causes and methods of treatment and care, coping with the complications of the disease, home care problems relating to children with cancer, educational clips, animation about cancer and its treatments with childish language, religious poetry, wallpapers of nature with bird song, and training booklet for parents (51) (Table I).

Results

Before the intervention, the demographic characteristics of the two groups were examined. There was no statistically significant difference between two groups (Table II). According to Table II, there was no significant difference between two groups in terms of child's age, parents' age, duration of illness, and number of family children. Two groups were compared in terms of depression before and after the intervention (Table III).

As it is clear from Table III, there was no significant difference between two groups before the intervention in terms of depression score ($p = 0.683$), but depression score decreased by 3.5 after the intervention in intervention group, which was a significant difference ($P<0.001$). Paired t-test also showed a significant difference between two groups after the intervention ($P<0.001$). There was no significant difference in the control group before and after the intervention in terms of depression score ($p = 0.1$). Two groups were compared in terms of anxiety before and after the intervention (Table IV). Based on Table IV, there was no significant difference between two groups before the intervention in terms of anxiety score ($p = 0.66$), but after the intervention, anxiety score increased by 6.53 in the control group and this difference was significant ($p <0.001$).). Paired t-test also showed a significant difference between two groups in this regard ($p <0.001$). In the control group, anxiety score significantly increased, but in the intervention group it did not increase significantly ($p = 0.324$).

Results on comparison of stress between two groups are shown in Table V. Based on Table V, there was no significant difference between two groups in terms of stress score ($p = 0.94$); whereas, after the intervention, the stress score in intervention group decreased by 4.58 and this difference was significant ($p <0.001$). Paired t-test also showed a significant difference between two groups after the intervention in this regard ($p = 0.003$).

Table I: Content of the training booklet:

Spiritual Health Guide for the Family of Patients:
-Parents as spiritual counselors and characters of spiritual caregivers. **-Principles of communicating with your child during illness:** **Health , safety, and child as gifts of God** **God as a healer** **Gentleness** **Compassion and kindness to the sick child** **Using the problem solving method** **-Relationship with God:** **Strengthening faith and trust in God** **Faith therapy(surrender and trust, prayer, use of touch with healing prayers to relieve pain and accelerate healing, Islamic ritual of sleep, the concept of dreaming),** **Reading and listening to Qur'an Story** **Reciting Quran** **-Communication and reconciliation with ourselves:** **Daily study of emotions and thoughts** **Spiritual self-care** **Use of spiritual care guidelines** **Self-calculation** **Abandoning acts that disrupt peace** **Self-accountability** **Using daily notes.** **-Communication and reconciliation with people :** **Giving charity** **Kindness** **Smiling** **Generosity** **Pardon another mistake** **Praying for relatives and friends** **Attention to spouse and children** **Visiting relatives** **-Communication and reconciliation with the world of nature:** **Watching the flowing water and green trees** **Smelling flowers** **Growing flowers** **Caring of animals** **Avoiding polluted air** **Smelling good scents** **Listening to the prayer-like melody of the nature (the rain, water, and animals)** **Using joyful colors** **Getting enough light.**

Table II: Comparison of demographic variables in the intervention and control groups

Group	**Child's age (years) The mean (SD)**	**Parents' age (years) The mean (SD)**	**Duration of illness (months) The mean (SD)**	**Number of family children (Person) The mean (SD)**
Control n = 36	13.5 (34.2)	35.66(5.25)	10.50(10.77)	**2(0.82)**
Intervention n = 36	4.08(2.41)	33.08(6.29)	10(9.43)	**1.75(0.64)**
Independent t-test	T=1.8 P=0.06	T=1.8 P=0.06	t=0.20 P=0.83	**t=1.42** **P=0.15**

Table III: Comparison of mean and standard deviation of depression in two groups before and after the intervention

Group Time	Control n = 36 The mean (SD)	Intervention n = 36 The mean (SD)	Independent t-test
Before	8.7(5.88)	8.1(5.61)	t=0.41 p=0.683
After	9.7(5.3)	4.41(3.20)	t=5.15 p<0.001
Paired t-test	t= -2.7 p=0.1	t=6.34 P<0.001	

Table IV: Comparison of the mean and standard deviation of the anxiety in the two groups before and after the intervention

Group Time	Control n = 36 The mean (SD)	Intervention n = 36 The mean (SD)	Independent t-test
Before	7.25(4.86)	8.08 (5.78)	t=0.441 p=0.66
After	14.05(4.86)	8.05(5.77)	t=4.77 p<0.001
Paired t-test	t= -5.75 p<0.001	t=1.00 p=0.32	

Table V: Comparison of the mean and standard deviation of the stress in two groups before and after the intervention

Group Time	Control n = 36 The mean (SD)	Intervention n = 36 The mean (SD)	Independent t-test
Before	11.41(5.40)	11.33(5.57)	t=0.64 p=0.94
After	9.97(5.57)	6.75(3.52)	t=3.12 p=0.003
Paired t-test	t=3.71 p=0.01	t =9.50 p<0.001	

Discussion

According to the community-based approach, care recommendations should be consistent with the patients' culture and beliefs (31). Spiritual care model of Sound Heart is consistent with Muslims values (36) recommending home care approach given that the sick child feels comfortable with family members in home, as a safe and secure environment (51).This is in line with Quran recommendation (Surah Nahl, verse 80) and the international approach. Quran introduces the home as a place for expressing feelings and secrets, gaining calm and security, having desirable break, relieving from spiritual suffering and social constraints and a place for satisfying instincts and meeting family's needs (52).The relationship of parents should be based on love and affection (Sura Roman, verse 21) (53).Scientific evidence has shown that parents, especially mothers, create sense of peace in their sick child. Mothers' relaxation gives the child a sense of security (54). This model uses the participation of family members and recommends love therapy (55). This model also introduces spiritual distress (56) and emphasizes on self-care, self-awareness, and self-cultivation (Surat al-Ma'eda, verse 105) (57, 58) and invites parents to think about their emotions and thoughts, teaches

spiritual self-care guidelines, and prohibits parents from despair of God's mercy (59). Faith is a very important factor for achieving spiritual health (having sound heart) which affects the bio- psycho - social health based on the soul abilities (60). The spiritual counselor teaches parents ways of strengthen their relationship with God for creating the courage to face the disease (34).

Scientific evidence has shown that high levels of anxiety and depression lead to avoidance behavior in parents of child with cancer, but high perceived social support can also reduce their anxiety (61). Islam emphasis on the development of social relationships with relatives (Sura Nisa, verse 1) (58).

Communication with relatives was encouraged for social support in this research. Nature as signs of God's mercy has soothing effect (62), which was recommended according to the patients' self-care ability in this research. Jackson et al., showed that trust in health care staff was the main source of stress compliance in parents and parents sought medical information as the next exercise (63). Throughout the research, the principles of spiritual communication were observed while teaching parents, such as obtaining permission, observing politeness when speaking, maintaining human dignity, and respecting family beliefs (64).

Pediatric cancer is a traumatic event that creates a range of psychological problems (65). More than half of the patients' caregivers have psychological disorders (66). Female gender, less education, life past events, preexisting psychological problems, high trait anxiety, financial worries, low social-economic status, perceived social support, child problems, and care demands have been identified as risk factors for parental psychological problems (67), which was consistent with the findings of this study. The purpose of spiritual counseling is to achieve a sound heart, which can provide mental health (37) because the sound heart owners are free from fear and anxiety, depression, and grief. They live in the present time with patience and attention to the blessings of God (38). However, 47% depression and 42% high anxiety was reported in the caregivers of leukemic children by Demirep et al., in 2011 (68). Kholasehzadeh et al., (2014) showed 70% severe depression, 20% moderate depression, and 8.5% mild depression in mothers of leukemic children (69). Asghari reported 68.7% stress, 56.2% anxiety, and 53.1% depression in mothers of children with cancer in 2015 (70). At the same time, Farhangee et al., reported 37% stress, 79% anxiety, and 67% depression in cancer children's parents (71). In this study, the spiritual counselling based on sound heart (Ghalbe Salim) model, along with posing positive thinking, optimism, and hope in God's mercy reduced the frequency of severe depression from 22.2% to 0% and the extreme stress from16.7% to 0% in the intervention group. However, the severity of depression increased from 25% to 27.8% and anxiety from 33.3% to 77.8% in the control group. In line with these findings, Edraki reported reduction of anxiety score among mothers with premature newborns admitted to neonatal intensive care units by using Ghalbe Salim model (72). With respect to findings of this study, use of sound heart model is suggested to enhance the mental health of the cancer patients' parents.

Conclusion

The spiritual counselling reduced the severity of depression and stress in parents and prevented the increase of anxiety in parents with a child with cancer.

Limitations

Providing spiritual counseling is teamwork, but only a nurse did this intervention by using educational software and social network .Future researchers are recommended to provide spiritual

counseling for chronic and cancer patients by using a team with specified duties.

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Conflicting of Interest

There is no conflict of interest between the authors

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