

Effect of spiritual counseling based on the Sound Heart Model on depression in hemodialysis patients

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Summary Background. Depression, as the most common psychological problem in hemodialysis patients, can be alleviated by spiritual care and belief in God's mercy and power.

Objectives. The aim of this study was “evaluation of the effect of spiritual care based on the Sound Heart Model on depression in hemodialysis patients”.

Material and methods. This clinical trial study was conducted in 2018 on hemodialysis patients at the Kamkar hospital in Qom. Sampling was done in an accessible form and according to inclusion criteria. Due to the patients' self-care ability, spiritual care was provided in the supportive-educational system by 12 individual educational sessions, 45–35 minutes long, for patients and families, based on the Sound Heart Algorithm after donating educational booklet. The Goldberg Depression Questionnaire was completed by both control and intervention groups before and after the intervention.

Results. There was no significant difference in mean scores of depression between the intervention and control groups before intervention ($p = 0.604$). After the intervention, the difference was significant ($p = 0.000$). There was no statistically significant difference in mean scores of depression in the control group before and after the intervention ($p = 0.259$), while this difference was significant in the intervention group ($p < 0.001$).

Conclusions. The Sound Heart Model, with a holistic, community-based approach by creating courage in the face of disease crises, hope, optimism, positive thinking, development of the family's and patient's relationship with God, self, people and nature, was able to reduce depression in hemodialysis patients, and thus the use of its strategy is recommended.

Key words: spirituality, depression, patients, renal dialysis.

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Background

Irreversible destruction of more than 80% of kidney nephrons threatens one's life during chronic renal failure (CRF) [1], with a prevalence of 242 cases per million people worldwide and an annual growth rate of 8% [2]. The prevalence of CRF in Iran is 357 cases per million people [3], which is expected to reach 95,000 cases by the year 2021 [4]. CRF requires renal replacement therapy (renal transplantation, hemodialysis and peritoneal dialysis) to increase the life expectancy of patients [5]. However, it is a major health problem worldwide [6]. In addition to numerous physiological problems, it causes mental distress [7] that endangers patients' mental health [8]. Hemodialysis patients have to endure the distresses of treatment. They are at risk for impaired mental-social-spiritual health over the extended period of the illness [9]. Most patients can not deal well with stress and experience anxiety, depression, disruption of social relationships and isolation [10].

Depression is one of the most common and most important psychiatric disorders. It should be considered as a risk factor for

patients' mortality due to its affect on the course of disease and treatment process [11]. Depression causes: decrease in energy and interest, change in activity level, impaired cognitive and speech abilities, concentration disorders, impaired biological rhythms (fatigue and insomnia), decreased libido, diarrhea, constipation, anorexia, guilt, thoughts of death and suicide [12]. Failure in diagnosis and treatment of depression leads to consequences such as: changes in nutrition status, immune system dysfunction, failure to adhere to treatment regimen, increased severity of illness and eventually discontinuation of treatment or even suicide [13]. It also increases treatment costs and care almost two-fold [14].

Studies have reported a 20–30% prevalence of depression in renal patients [15–18]. This rate has been reported in studies outside Iran by: Bossola et al. 20–70% [19], Cukor et al. 30–30% [20], Aghanwa and Morakinyo 35% [21], Takaki et al. 61% [22], Diefenthaler et al. 55–33%, all of them are associated with increased suffering of patients and decreased acceptance of the disease [23]. The incidence of depression in hemodialysis patients in Iran was reported by: Ahmadzadeh and Mehdi 50% [24], Mahmoudi



et al. 93% [25], Malahadi et al. 60.5% [26], Salehi 50% [27], which is higher than the rate of depression in dialysis patients in other countries due to prolonged hospitalization and high mortality rate [28–30]. Unfortunately, in spite of its high prevalence, in most patients, depression is not diagnosed and remains untreated, thus leading to increased mortality, hospitalization and rejection of treatment [31], intolerance of activity, impaired self-esteem, self-care impairment [32], dependence on job duties, disappointment and decline in patients' social activities [33].

Depression is one of the major causes of "patients' unwillingness to participate in the treatment process", which results in increased medical problems, health risks and premature death [34]. Hemodialysis patients require many medications and often cannot afford to pay for new medicines. The financial problems of hemodialysis patients in Iran have made them reluctant to use other drugs. Iranian researchers have found that depression in hemodialysis patients cannot be treated with medication interventions alone [35–38]. Non-pharmacological interventions as complementary medicine can be used, such as mental imagery [39], Hat yoga exercises [4], prayer [40], Dosha [41], progressive muscle relaxation [42], electrical skin stimulation [43] and laughter therapy [44].

A group of researchers have used indigenous models, such as: Multidimensional Mental Health Care Model [45], Family-centered Empowerment Model [46], Continuing Care Model [47], Perceived Disease Intervention [48, 49], Cognitive-Behavioral Group Therapy [50]. While the spiritual dimension of health has been neglected by most scholars, they have neglected the impact of spirituality and spiritual health on other aspects of health [51]. Only Aghajani et al. have used spiritual counseling based on the Richard Berger's strategy [52].

In recent decades, international scholars have focused on the importance of spiritual health and the role of spiritual beliefs in alleviating patients' suffering. Considering the necessity of "community-oriented" and holistic care, Asadzandi "designed and validated the Sound Heart Model (SHM), a spiritual care based on religious spirituality [53]. She described the spiritual health education algorithm in the Islamic religious spiritual health training model for patients [54]. This model, based on the Islamic perspective, introduces belief in the soul and the unseen world as the first condition of faith (sura Baqarah/verse 2) [55] and faith and good deeds (sura haqqah/verse 16) as a factor in attaining spiritual health (sound heart) [56]. It introduces the illness and problems of life as a divine test that can be tolerated by faith in God's mercy [57] and introduces spirituality as an important factor in coping with life stressors and to sooth anxiety and depression [58]. Given that people with spiritual health (sound heart) are immune from future fears and anxieties and regrets about losing blessings, they live in the present time, with patience and "thankfulness" [59].

Objectives

The aim of this study was evaluation of the effect of spiritual care based on the Sound Heart Model, as an independent variable, on depression in hemodialysis patients, as a dependent variable.

Material and methods

Study design

This randomized, educational clinical trial with a control group was conducted in the hemodialysis center of Qom Kamkar hospital in 2018.

Participants

Sampling was done in an accessible form and according to the inclusion criteria: adult patients over 18 years of age, able to

read and write Persian, able to communicate, without chronic mental illness and use of psychotropic drugs, with at least one year of dialysis experience, at least twice a week dialysis, without a history of attending spiritual meetings or spiritual health training courses. Exclusion criteria included: severe physical or mental crisis, life-threatening illness in addition to CRF, unwillingness to continue research, transfer to another hemodialysis center, candidate for kidney transplant surgery.

Setting

After explaining the method of study and obtaining informed written consent, the samples were randomly divided into intervention and control groups. The minimum sample size was estimated to be at least 45 in each subgroup to compare depression in the intervention and control groups. This was achieved by using G Power software with a significance level of 0.05, test power of at least 0.80 and effect size of 0.6 [60]. With a 20% chance of falling, 9 patients were added to each group. The sample size in each subgroup was 54 patients. In the control group, 7 patients were excluded because of incomplete information and transfer to another hemodialysis center. At the end of the study in the control group, the sample size was 47 patients. However, the sample size of the intervention group remained the same at 54 individuals, and no one withdrew.

$$n = \frac{(z_{1-\alpha/2} + z_{1-\beta})^2 (s_1^2 + s_2^2)}{(\mu_1 - \mu_2)^2}$$

Due to the patients' self-care ability, spiritual care was provided in the supportive-educational system, in spiritual counseling sessions, for intervention group, on a separate floor from the control group. 12 individual educational sessions, 35–55 minutes long, were conducted for the patients and families based on the Sound Heart Model [54] after donating education booklet [61]. The Goldberg Depression Questionnaire was completed by both the control and intervention groups before and at the end of the intervention, which lasted for 5 months.

Measurement tools

The Goldberg Depression Questionnaire (GDS) is very useful for the rapid assessment and screening of depression. This questionnaire has 18 items. The answers in the Likert range are as follows: very high (5), high (4), moderate (3), low (2), very low (1) and never (0). Depressive disorder or its probability in individuals, is evaluated according to the score obtained from the questionnaire as follows: healthy person (0–9), probability of depression (10–17), borderline depression (18–21), mild depression to moderate (22–35), moderate to severe depression (36–53), very severe depression (more than 54). Rahimi et al. reported the good reliability of this tool, with a Cronbach's alpha coefficient of 0.88, and the concurrent validity of this questionnaire using the Goldberg Anxiety Scale was confirmed [62].

Statistical methods

The independent *t*-Test was used to compare the degree of depression between the intervention and control groups. The paired *t*-Test was used to compare the level of depression before and after the intervention in each group (intervention and control). The significance level for all tests was 0.05. Calculations were performed using SPSS software version 24.

Ethical consideration

This research was approved by the Spiritual Health Research Center of the Qom University of Medical Sciences under ethical code: IR.MUQ.REC.1397.83 and Clinical Trial System Code: IRCT20181103041532N1.

Results

Time	Intervention group (n = 54) Mean (standard error)	Control group (n = 47) Mean (standard error)	Independent t-Test
Before	51.46 (2.360)	49.64 (2.568)	$p = 0.604$
After	24.25 (1.212)	47.10 (1.212)	$p = 0.000$
Paired t-Test	$p < 0.001$	$p = 0.259$	

Table 1 shows that there was no significant difference in mean scores of depression between the intervention and control groups before intervention ($p = 0.604$), but after intervention, the difference was significant ($p = 0.000$). There was no statistically significant difference in mean scores of depression in the control group before and after the intervention ($p = 0.259$), while this difference was significant in the intervention group ($p < 0.001$).

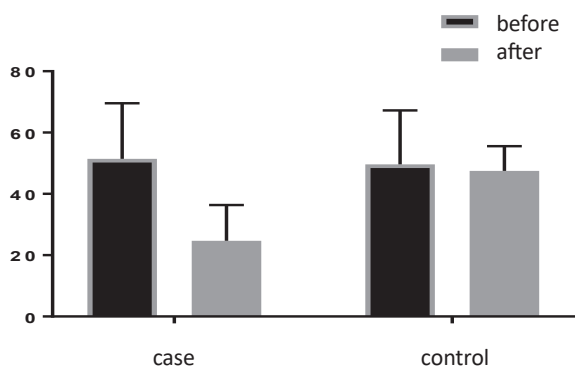


Figure 1. Comparison of depression scores before and after intervention in case and control groups

Discussion

Since chronic patients suffer from the loss of their health and fear of the future and death anxiety, the first step in spiritual care/counseling is paying attention to the patient's spiritual distress [63]. By changing the patient's perception of the disease through the spiritual skills of faith therapy (trusting and delegating things to God, paying attention to the infinite power and grace of God) [56], the perceived threat can be transformed into the courage to face the disease crisis. The spiritual counselor, "with the help of changing the patient's attitude toward the disease", introduces the disease as a challenge "which can be managed with the help of God" [64]. This part of the findings of the SHM is consistent with the self-regulation theory of Leventhal et al. [65] and the educational intervention for understanding illness [66]. They believe that each patient has a unique understanding of the disease that affects his or her health outcomes. Educational intervention affects health behaviors, functional outcomes and mental adjustment, and it also prevents negative consequences: doubt about the necessity of medication use, worry about the disease [67, 68].

Spiritual counseling sessions are conducted with "Logical Thinking Skills Training", focusing on the positive aspects of the disease on the basis of dualism and the development of optimism and hope and positive thinking in patients in light of their spirituality and beliefs, including: paying attention to the good consequences of any disaster [69]. This part of spiritual counseling is consistent with Freire's cognitive-behavioral group thera-

py intervention, which believes that our emotions are triggered by our thoughts and teaches one how to analyze thoughts, how to use problematic thinking, how to change wrong thinking patterns, along with self-punishment and self-reward training, logical analysis and fantasy training [70, 71].

Achieving spiritual health (sound heart) requires developing relationships with self, people and nature in the light of a relationship with God. Self-awareness and spiritual care guideline training and a patient's relationship with family members, relatives and friends is strengthened to gain emotional and social support, and the patient is encouraged to use the beauties of nature [72], which is consistent with the findings of Szeto et al., which have shown that social support is an independent factor affecting the survival of patients undergoing hemodialysis [73], and participating in a peer support group improves the mental health of these patients [74]. Social support, which includes: Emotional support (loving the patient, accepting the patient), Information support (giving information to people in times of physical and mental stress), Instrumental support (money, goods, services) [75], had a significant relationship with depression in hemodialysis patients. In Iran, the most favorable social support was emotional support (64%), and the most undesirable social support was instrumental support (72%) [76].

From an Islamic perspective, health is a divine gift, and patients need to try hard to improve their health. They should take care of themselves with sufficient motivation and commitment. Thus, in the counseling sessions of this study, the motivation for self-care was strengthened by telling stories and getting help from someone or something that gave meaning to the patient's life. Problem-solving skills and lifestyle modification techniques were also taught to strengthen patients' sense of commitment [77], which are in line with the latest psychological treatments (Acceptance and Commitment Based Therapy) [78, 79].

Acceptance and Commitment Therapy (ACT) is a cognitive-behavioral therapy that uses acceptance and mindfulness strategies [80]. The ACT approach is based on this point of view that humans seek to release or change their unwanted feelings and thoughts, but this action, exacerbates their discomfort in a paradoxical way [81]. ACT recommend six strategies for psychological flexibility of patients included: 1 – Cognitive defusion (methods to reduce the tendency to reify thoughts, emotions and memories), 2 – Acceptance of emotions and thoughts (allowing unwanted private experiences to come and go without struggling with them), 3 – Contact with the present moment (awareness of the here and now, communicating with the present time rather than looking at the past or future), 4 – The observing self (accessing a transcendent sense of self), 5 – Values (discovering what is most important and being explicit in expressing values), 6 – Committed action (setting goals according to values and carrying them out responsibly) [82].

The Sound Heart Model emphasizes: home care, family participation in the treatment and care plan, family-centered and patient-centered care, providing spiritual care by the treatment team (physician, nurse, clergyman, psychologist, social worker, physiotherapist, nutritionist) [83]. The Model recommends spiritual skills according to the patient's own interests and self-care abilities and implements spiritual care based on a problem-solving approach [84]. It is also in line with Flahie's "Multidimensional Mental Health Care Model" [45].

Unlike the Family-centered Empowerment Model, the Sound Heart Model does not seek to create a perceived threat in the patient [46]; it seeks to alleviate the patient's perceived threat and create a sense of courage to deal with the crisis through spirituality and the patient's faith.

Limitations of the study

It should be noted that this research had limitations, such as lack of control confounder variables and lack of follow-up in the long term.

Conclusions

The Sound Heart Model, with a holistic, community-based approach by creating: courage in the face of disease crises, hope, optimism, positive thinking, development of the family's and patient's relationship with God, self, people and nature, was able

to reduce depression in hemodialysis patients, so the use of its strategy is recommended for chronically ill patients.

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