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ORIGINAL PAPER

The Effectiveness of Spiritual Therapy on Spiritual Well-Being, Self-Esteem and Self-Efficacy in Patients on Hemodialysis

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Abstract

Spirituality is an important part of practice of the healthcare providers. Spiritual therapy is important for patients with chronic and end-stage diseases such as end-stage renal disease due to changes in physical, mental, social and spiritual needs. Promotion of spiritual well-being, self-esteem and self-efficacy is very important for these patients. The aim of this study was to determine the effectiveness of spiritual therapy on spiritual well-being, self-esteem and self-efficacy in patients on hemodialysis. The quasi-experimental research design was pre–posttest with the control group. The statistical population was the patients on hemodialysis in Governmental Hospital of Shahid Mostafa in Ilam, Iran, in 2015. Twenty-four patients were entered to the study by convenience sampling. They were divided into experimental and control groups randomly. Twelve 60-min sessions of spiritual therapy were held for the experimental group twice a week. The tools included spiritual well-being scale of Paloutzian and Ellison, Self Esteem Inventory of Cooper Smith and Self-Efficacy Scale of Sherer. Data were analyzed by SPSS software through descriptive and inferential statistics (analysis of covariance). p Values < 0.05 were considered significant. Results indicated that the scores in the experimental group changed in spiritual health from 39.32 ± 3.38 to 43.40 ± 2.82, in self-esteem from 42.65 ± 2.61 to 45.90 ± 3.88 and in self-efficacy from 40.99 ± 2.19 to 44.65 ± 2.58 which was significant compared with the control group ($p = 0.01$). Spiritual therapy can be used as an effective intervention to improve spiritual well-being, self-esteem and self-efficacy in patients on hemodialysis. This intervention is directed to holistic care. It can be done by interdisciplinary participation in caring and psychological teams.

Keywords End-stage renal disease · Health care · Quasi-experimental · Clinical psychology

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Introduction

Considering the psychological variables and spirituality of patients is important (Pouy et al. 2018; Borji et al. 2019; Gheshlaghi and Gheshlaghi 2018; Reinert and Koenig 2013; Bagheri et al. 2018). The themes of spirituality have been shown as 'a human being, spiritual well-being and spiritual awareness' in a study (Hwa 2011). The role of spirituality in health care has been approved in patients and their families (Finkelstein et al. 2007). Nurses have less awareness of spirituality concept and offering spiritual care. Also spiritual care in Iran is subtle, ambiguous, informal and unplanned (Zehtab and Adib Hajbaghery 2014).

Considering spirituality along with other physical, mental and emotional needs is important as a factor in mental relaxation and reducing stress for patients on hemodialysis (Eslami et al. 2014; Dehghan et al. 2017; Khoshnood et al. 2018). The study on 200 patients with ESRD on hemodialysis and peritoneal dialysis showed a strong relationship between spirituality and multiple dimensions of quality of life as well as spiritual well-being and quality of sleep (Finkelstein et al. 2007). The study by Spinal et al. on 166 patients with ESRD on hemodialysis indicated the effects of spirituality on survival in them could be due to meditating social support (7). The study by Eslami et al. on 190 hemodialysis patients showed a significant relationship between sleep quality and spiritual well-being (6).

The prevalence of chronic kidney disease is on the rise (Davoodi et al. 2018; Mousavi Movahhed et al. 2018). Given that Iran population growth, annual growth of ESRD and annual growth of hemodialysis patients were 1.1, 5–6 and 6%, respectively, in 2015, treatment and care of these patients have encountered challenges. The load of physical and psychological symptoms is high in patients on hemodialysis (2015). Most reported symptoms are fatigue, irritability and nervousness (Zamanian and Taheri Kharameh 2015; Khazaei et al. 2014). In the study of Spahbodi et al. that was conducted in 2014 on 180 patients on hemodialysis, 13.3% had suicidal thoughts and 27.3% suspected for psychiatric problems. Also, there was a significant relationship between suicidal thoughts and gender, age, education, occupation and duration of dialysis (Spahbodi et al. 2014). The study of Sajjadi et al. in 2010 on 56 patients undergoing hemodialysis showed 39.3% moderate and 60.7% severe fatigue in them. People with insufficient income and more than 10 years previously treated with hemodialysis, had more fatigue (Sajjadi 2010). In the study of Otaghi et al. in 2014 and 2015 on 56 patients undergoing hemodialysis, 94.6% had poor sleep quality (9). Evaluation of self-esteem has become increasingly important for these patients. Low self-esteem as a major problem in these patients decreases adherence to treatment (Poorgholami et al. 2015). Self-esteem, perceived independence and participation in the labor force are related together. Positive beliefs about chronic kidney disease and hemodialysis treatment are associated with higher levels of self-esteem and independence. For caring hemodialysis patients, positive or realistic beliefs should be stimulated and negative beliefs should be prevented or challenged. Interventions focused on these aspects can help patients to comply with disease and ultimately inhibit unnecessary disability (Jansen et al. 2010). Some studies showed efficacy in patients on hemodialysis has related to health, quality of life and

satisfaction of treatment. Regularly monitoring and empowering patients undergoing hemodialysis should be considered, and interventions should be done to increase the efficacy of them so that they can manage their own health problems (Kim et al. 2013; Moattari et al. 2012). Some studies showed interventions by nurses can improve the health status of patients (22, 27–35). There was not enough literature to support the effectiveness of programs of spiritual care for increasing self-esteem and self-efficacy in patients on hemodialysis. This is particularly significant in the context of Iranian-Islamic culture. This study aimed to determine the effectiveness of spiritual therapy on spiritual well-being, self-esteem and self-efficacy in hemodialysis patients.

Materials and Methods

The quasi-experimental research design was pre–posttest with the control group. The statistical population was the patients on hemodialysis in Governmental Hospital of Shahid Mostafa in Ilam, Iran.

Inclusion criteria included ability to read and write, having a minimum of 18 and maximum age of 60 years (adults), and exclusion criteria included the lack of clear diagnostic criteria for psychiatric disorders, the presence of any other physical diseases that prevents the individual from participating in the research program, not desiring to participate in the study, two times or more absences in spiritual therapy sessions and candidate for a kidney transplant. A total of 56 patients were undergoing hemodialysis at the hospital during the study period. Among them, only 24 people were entered in the study based on the inclusion and exclusion criteria. Sixty-minute sessions of spirituality therapy were held for the experimental group, twice weekly for 6 weeks in a sitting room of the dialysis center. The objectives of spiritual therapy sessions were based on the following:

1. Orientation, introduction and declaration of objectives and workflow.
2. Encourage reading prayers in the section.
3. Encourage reading the book of the Qur'an.
4. Encourage reading the religious book.
5. Working on the told story by the members and identifying components of spirituality in them.
6. Identifying appropriate goals (training priority processing to determine important, achievable and measurable goals).
7. Preparing a trajectory list and identifying appropriate passages to achieve the goals.
8. Increasing the agent power by using positive thinking and repeating positive words.
9. Identifying barriers, including negative self-talking and cognitive misunderstanding.
10. Training coping barriers by using creativity.
11. Using self-awareness skill in personal, familial and social life.

12. Using problem-solving skill through a spiritual approach.
13. Using forgiving skill for restoration interpersonal relationships.
14. Using rosary skill.
15. Assessing attaining the goals, summarizing and concluding the meetings.

The tools included Spiritual Well-Being Scale (SWBS) of Paloutzian and Ellison, Self Esteem Inventory (SEI) of Cooper Smith and Self-Efficacy Scale (SES) of Sherer (Imam, 2007). They were completed by both experimental (before and after the intervention) and control groups.

Spiritual Well-Being Scale (SWBS) of Paloutzian and Ellison (1982) It includes 20 questions, of which 10 measures religious health and 10 measures existential well-being. The spiritual well-being score is the sum of these two subscales and is expected to be in the range of 20–120. This questionnaire was used in many studies and has a high validity and reliability (Assarroudi et al. 2012; Farahaninia et al. 2006; Fatemi et al. 2016; Mostafazadeh and Asadzadeh 2012).

Self Esteem Inventory (SEI) of Cooper Smith (1967) It has 58 questions that describe a person's opinions or reactions. Subjects must choose 'Yes' or 'No' to answer questions. The validity and reliability have been proven by other studies too (Javanbakht et al. 2010; Moradei Shahrebabak et al. 2011; Sabet 1996).

Self-Efficacy Scale (SES) of Sherer et al. (1982) It includes 17 items. The range of questions is classified in five options on a Likert scale. This scale has a maximum score of 85 and a minimum score of 17. Few other studies also have followed this questionnaire (Sherer et al. 1982; Dehghani et al. 2011).

Pretests were done at the first session of spirituality therapy. Posttests were done 2 weeks after the last session of spirituality therapy.

Statistical Analysis

Data were analyzed by SPSS software version 16 through descriptive (frequency and percentage) as well as inferential statistics (analysis of covariance). Descriptive statistics can only provide an image of the sample size, but is not able to express relationships between variables. So inferential statistics was used to review and explain the differences between the groups and analyzing data. At this stage, Kolmogorov test was used to test the normality of the data. Mean scores of variables were compared in both groups before and after spiritual therapy by covariance. Significant level was considered to be 0.05.

Results

Demographic characteristics are summarized in Table 1. This table shows that majority of the experimental group included women (8 patients, 66.7%), with 51–60 years of age (6 patients, 50%), married (8 patients, 66.7%) and with a degree of high diploma (5 patients, 41.7%). In the control group, the majority of

Table 1 Demographic characteristics of research samples

Variable	Group	Range	Frequency (%)
Gender	Control	Male	7 (58.3)
		Female	5 (41.7)
	Experimental	Male	4 (33.3)
		Female	8 (66.7)
Age (years)	Control	21–30	1 (8.4)
		31–40	2 (16.6)
		41–50	3 (25)
		51–60	6 (50)
	Experimental	21–30	2 (16.6)
		31–40	1 (8.4)
		41–50	3 (25)
		51–60	6 (50)
Marital status	Control	Single	4 (33.3)
		Married	8 (66.7)
	Experimental	Single	5 (41.7)
		Married	7 (58.3)
Educational level	Control	Diploma	5 (41.7)
		High diploma	4 (33.3)
		Bachelor	2 (16.6)
		Masters	1 (8.4)
	Experimental	Diploma	4 (33.3)
		High diploma	5 (41.7)
		Bachelor	2 (16.6)
		Masters	1 (8.4)

them were men (7 patients, 58.3%), with 51–60 years of age (6 patients, 50%), married (7 patients, 58.3%) and with diploma (5 patients, 41.7%).

Table 2 summarizes the descriptive statistics before and after intervention in the control and experimental groups. According to this table, the dependent variables of self-esteem and self-efficacy did not have any difference in the control group before and after intervention, but the mean of these variables increased after intervention in the experimental group. The mean of spiritual well-being increased after intervention in the experimental group. It increased slightly after intervention in the control group. This slight change may be due to the effect of pretest.

Table 3 shows the output of the Levene test. The Levene test result shows that all the groups have the same variance, and hence, parametric test can be applied.

Tables 4, 5 and 6 show the main output of ANCOVA. In the third line, the value of F shows covariate effect (for spiritual well-being, self-esteem and self-efficacy, respectively, 136.315, 39.054 and 51.950). The third line of three tables showed the effect of pretest is significant for three variables ($p = 0.001$). Thus, the assumption of correlation between covariate and the independent variable was

Table 2 Summary of descriptive statistics for three research variables in control and experimental groups

Variable	Time	Group	Mean	SD
Spiritual well-being	Before intervention	Control	42.3000	4.19567
		Experimental	39.3250	3.38315
		Sum	40.8125	4.02517
	After intervention	Control	43.5417	4.23244
		Experimental	43.4000	2.82457
		Sum	43.4708	3.51969
Self-esteem	Before intervention	Control	37.5912	2.39940
		Experimental	42.6565	2.61827
		Sum	40.1238	3.56724
	After intervention	Control	34.3536	2.73242
		Experimental	45.9000	3.88059
		Sum	40.1278	6.74834
Self-efficacy	Before intervention	Control	39.9456	2.53978
		Experimental	40.9907	2.19895
		Sum	40.4682	2.38381
	After intervention	Control	38.9486	2.20664
		Experimental	44.6500	2.58619
		Sum	41.7993	3.74264

Table 3 Homogeneity of variances in independent variables (the Levene test)

Variable	Time	*F*	*df* 1	*df* 2	*p* value
Spiritual well-being	Before intervention	0.868	1	22	0.362
	After intervention	2.055	1	22	0.166
Self-esteem	Before intervention	0.380	1	22	0.544
	After intervention	1.443	1	22	0.242
Self-efficacy	Before intervention	0.184	1	22	0.672
	After intervention	0.401	1	22	0.533

NS (not significant), $p > 0.05$; *$p < 0.05$, significant; **$p < 0.001$, highly significant

Table 4 ANCOVA for spiritual well-being

Source	Sum of squares	*df*	Mean square	*F*	*p* Value
Corrected model	246.910[a]	2	123.455	68.191	0.001**
Intercept	11.005	1	11.005	6.078	0.22
Pretest	246.790	2	246.790	136.315	0.001**
Group	31.461	21	31.461	17.377	0.001**
Error	38.019	24	1.810		
Total	45,638.050	23			
Corrected total	284.930	2			

NS (not significant), $p > 0.05$; *$p < 0.05$, significant; **$p < 0.001$, highly significant

[a]*R*-squared = .867 (adjusted *R*-squared = .854)

Table 5 ANCOVA for self-esteem

Source	Sum of squares	*df*	Mean square	*F*	*p* value
Corrected model	960.778[a]	2	480.389	116.4333	0.001**
Intercept	0.832	1	0.832	0.202	0.658
Pretest	161.132	2	161.132	39.054	0.001**
Group	105.333	21	105.333	25.530	0.001**
Error	86.644	24	4.126		
Total	39,693.147	23			
Corrected total	1047.421	2			

NS (not significant), $p > 0.05$; *$p < 0.05$, significant; **$p < 0.001$, highly significant

[a]*R*-squared = .917 (adjusted *R*-squared = .909)

Table 6 ANCOVA for self-efficacy

Source	Sum of squares	*df*	Mean square	*F*	*p* value
Corrected model	285.571[a]	2	142.786	81.931	0.001**
Intercept	3.961	1	3.961	2.273	0.147
Pretest	90.536	2	90.536	51.950	0.001**
Group	131.793	21	131.793	75.624	0.001**
Error	36.598	24	1.743		
Total	42,254.536	23			
Corrected total	322.169	2			

NS (not significant), $p > 0.05$; *$p < 0.05$, significant; **$p < 0.001$, highly significant

[a]*R*-squared = .886 (adjusted *R*-squared = .876)

observed. The fourth line is the main output of ANCOVA. The value of F for the independent variables (group) is significant ($p = 0.001$). It means after removing the effect of pretest, there was a significant difference between mean scores of posttest in two groups. Therefore, the null hypothesis was rejected and spiritual therapy was effective in the experimental group.

Discussion

It is important to pay attention to the spiritual health of patients (Haefi et al. 2018; Vasigh et al. 2018). Healthcare professionals generally have a positive opinion about the effects of spirituality on health. A content analysis showed empathy and spiritual care of midwives play a key role in creating a positive experience of birth and motherhood (Moloney and Gair 2015). In a cross-sectional study, the majority of physicians believe that religion and spirituality have a great effect on human health. From their perspective, religion and health often help patients recover, give a positive mental state and provide emotional and practical support in cancer patients through the religious community (Curlin et al. 2007).

In another cross-sectional study, responses of 385 participants indicated nurses observe the spirituality and spiritual care as an important aspect of nursing practice, but they need more preparation (Chandramohan and Bhagwan 2016). This preparation can be provided with training. Even a training session could have a positive effect on the viewpoints of the nurses to provide spiritual care for their patients (O'Shea et al. 2011).

In this study, spiritual therapy improved spiritual well-being in patients on hemodialysis. A concept analysis of spirituality indicated spirituality is a complex concept but has three defining properties: connection, transcendence and meaning in life (Weathers et al. 2016). These three properties can provide desirable effects for the person. A study on 24 patients with breast cancer indicated spiritual group therapy improves quality of life and spiritual well-being (Zamanian and Taheri Kharameh 2015). Improving the spiritual well-being can have other positive outcomes. An analytical study on 200 patients undergoing hemodialysis showed a strong relationship between spiritual well-being and multiple dimensions of quality of life (Finkelstein et al. 2007). Another study on 190 hemodialysis patients showed a significant direct correlation between spiritual well-being and quality of sleep (Eslami et al. 2014). The study of Tanyi and Werner on 65 women undergoing hemodialysis at five centers of a metropolitan area in 2003 showed relatively high levels of spiritual well-being. There was a relationship between adjustment, spirituality and self-perceived health in them (Tanyi and Werner 2003).

The study of Dehbashi et al. on 140 hemodialysis patients in Zahedan, Iran, in 2015 showed a significant positive correlation between hope and spiritual well-being (Dehbashi et al. 2015). George et al. mentioned there are three mechanisms underlying the relationship between religion/spirituality and reducing onset or mortality of physical and mental illnesses and increasing the chance of recovery or cope with them. They presented these mechanisms as increasing healthy behaviors, social support and a sense of coherence or meaning (George et al. 2000). In the study of Abdi et al., religious intervention on life satisfaction and depression in cardiac patients (Abdi et al. 2018) and, in the study of Beri and colleagues, religious intervention had a positive effect on the loneliness of the elderly (Borji and Tarjoman 2018), which is consistent with the results of the present study.

In this study, spiritual therapy improves self-esteem and self-efficacy in patients on hemodialysis. The study of Marashi and Mehrabian on 139 patients undergoing hemodialysis in the province of Ilam, Iran, in 2014 showed a significant positive relationship between all dimensions of spiritual well-being and self-esteem (Marashi and Mehrabiyan 2016). The study of Jansen et al. on 166 hemodialysis patients in 2010 indicated the majority of them had high self-esteem, moderate autonomy and low labor participation. The study of Theofilou on 144 patients (84 hemodialysis and 60 peritoneal dialysis) from three general hospitals in Athens, Greece, in 2012 showed a significant positive association between self-esteem and internal health locus of control (Theofilou 2012). Relying on internal locus of control, self-esteem and self-efficacy can improve self-management. Novak et al. in their study suggested that improving self-management of chronic disease improves quality of life, coping, symptom management, disability and reduces healthcare costs and use of the services (Novak et al. 2013).

It seems spiritual therapy empowered hemodialysis patients and increased their self-care potential. A RCT study indicated a combination of individual counseling and group empowerment effects on self-efficacy, quality of life and even clinical and laboratory parameters in patients on hemodialysis (Guilherme et al. 2016). In another study, the effectiveness of self-care education on promoting self-esteem was confirmed in patients on hemodialysis (Poorgholami et al. 2015). Data from a study of 166 hemodialysis patients indicated the effects of spiritual therapy can be mediated by social support. Improved self-esteem and self-efficacy in patients undergoing hemodialysis could result in the positive beliefs about the disease and treatment, adherence to treatment and satisfaction of treatment. A study of 109 hemodialysis patients showed positive beliefs about the disease, and treatment was associated with high levels of independence and self-esteem (Jansen et al. 2010). Korean study on 237 hemodialysis patients indicated health-related quality of life, self-efficacy and treatment satisfaction were correlated (Moattari et al. 2012).

Limitation and Strengths

One of the limitations of this study was small sample size due to low numbers of the study population. For this reason, convenience sampling was done. However, randomly assigning to two experimental and control groups increased the generalizability of the results. One of the strengths of this study was active participation of subjects in the spiritual therapy program based on having a rich background of spirituality in them. Also, using covariance to analyze data was appropriate for controlling potential confounding variables.

Conclusion

This study indicated spiritual therapy is effective on spiritual well-being, self-esteem and self-efficacy in patients undergoing hemodialysis. This effectiveness will have the positive outcomes such as improved quality of life, improved sleep quality, positive beliefs about the disease and treatment, adherence to treatment and satisfaction of treatment. So spirituality therapy can be used as an effective intervention to improve spiritual well-being, self-esteem and self-efficacy in patients undergoing hemodialysis. This intervention is directed to holistic care. It can be done by interdisciplinary participation in caring and psychological teams. It is recommended that spirituality therapy should be included in the care programs by healthcare professionals, considered in the educational curriculum and used on a personal level for both caregivers and patients on hemodialysis.

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Compliance with Ethical Standards

Conflict of interest The authors declare that they have no conflict of interest.

Research Involving Human Participants and/or Animals Research involves human.

Informed Consent Assign the patients randomly.

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