

Original Paper

# Effect of Spiritual Care on Death Anxiety and Self-esteem in Patients With Multiple Sclerosis



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## ABSTRACT

**Introduction:** Death anxiety and low self-esteem are major problems in patients with Multiple Sclerosis (MS). Spiritual interventions, along with other nursing interventions, can restore the balance between body and soul.

**Objective:** This study aimed to determine the effect of the spiritual care program on death anxiety and self-esteem in MS patients.

**Materials and Methods:** In this clinical trial, 60 patients with MS were randomly assigned into the intervention (n=30) and control (n=30) groups. The intervention group received spiritual care program in four sessions. Templer death anxiety and Rosenberg self-esteem scale were completed by samples before and after the intervention. Data analysis was performed using the independent t test, Chi-square, and Fisher exact tests. The significance level is considered less than 0.05.

**Results:** The Mean±SD ages of the intervention and control group samples were 32.8±6.39 and 35.1±8.35 years, respectively. The Mean±SD scores of death anxiety in the control group 12.27±0.85 and the intervention group 11.8±0.88 before the intervention were not significantly different. After the intervention, the difference between the Mean±SD scores of the control group 12.10±0.61 and the interventional group 8.13±0.71 was statistically significant (P=0.001). The Mean±SD scores of self-esteem in the control group 14.63±1.51 and the interventional group 15.5±1.5 before the intervention were not significantly different. The difference between the Mean±SD scores of self-esteem in the control group 14.67±1.9 and the interventional group 18.03±1.85 was significant after the intervention (P=0.001). The results of ANCOVA demonstrated a significant difference between the control and intervention groups in terms of death anxiety (F=6.41, P=0.014, partial Eta<sup>2</sup>=0.101) and self-esteem (F=13.079, P=0.001, partial Eta<sup>2</sup>=0.187) of MS patients.

**Conclusion:** Since spiritual care intervention in patients with MS reduced their death anxiety and increased their self-esteem, this simple and low-cost care program can be recommended for those suffering from this disease.

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## Highlights

- Death anxiety is the most important factor in people's mental health and is more common in chronic diseases.
- Death anxiety and low self-esteem are two common psychological symptoms of multiple sclerosis.
- Spiritual care intervention in patients with multiple sclerosis increases their self-esteem.
- Spiritual care can improve the mental health of multiple sclerosis patients.

## Plain Language Summary

This study aimed to investigate the effect of the spiritual care program on death anxiety and self-esteem in patients with multiple sclerosis. It is one of the most common chronic diseases of the central nervous system. Multiple sclerosis causes physical and mental problems in these patients. Essential psychological problems in these patients are death anxiety and subsequent decrease in self-esteem. To this end, these patients seek to find purpose and value in their lives. If patients can find spiritual beliefs, they can get rid of anxiety caused by illness and death and increase their self-esteem. Patients with good spiritual health are capable, strong, have more control and social support. In this study, 60 patients with multiple sclerosis were divided into control and intervention groups. The spiritual care training was held in 4 one-hour sessions for the intervention group. The control group received routine care. Before the intervention, there was no significant difference between the two groups in death anxiety and self-esteem, but after the intervention, a decrease in death anxiety and an increase in self-esteem were seen in the intervention group compared to the control group.

### Introduction

**M**ultiple Sclerosis (MS) is a chronic and inflammatory disease that affects the white matter of the central nervous system and causes disorders and complications in the nervous system [1, 2]. About 309.2 per 100000 people in the United States and 2.5 million worldwide suffer from this disease [3]. According to the Iranian MS Association, its prevalence is approximately 29.3 per 100000 people [4]. The primary complications of this disease are fatigue, muscle cramps, tremors, imbalance, and walking disorders [5]. Because of the chronic and recurrent nature of MS, this disease affects the patient personal life, self-confidence, family, job, and future of the patient to varying degrees [6]. In these patients, depression and anxiety are common reactions that usually occur in the later stages of the disease [7].

Death anxiety and low self-esteem are two common psychological symptoms in these patients that can cause physical and mental problems. Death anxiety is real anxiety and one of the most important factors in people's mental health; it is more common in chronic diseases such as multiple sclerosis. Manifestations and complications of MS strongly impact one's self-image and lead to

very destructive effects on self-esteem [8, 9]. Personal emotional self-esteem refers to being valued or to the extent that people value, appreciate, or love themselves [10]. Positive self-image and self-esteem are the best predictors of MS [11]. Mikula et al. showed an improvement in the physical and mental quality of MS patients with higher self-esteem [9]. This finding suggests that patients' spiritual needs are not fulfilled during their disease [12]. Meeting the spiritual needs of hospitalized people is crucial in accelerating recovery speed, achieving spiritual health, and reducing and controlling anxiety and depression [13].

Spiritual care is an integral part of nursing care [14]. It includes interpersonal communication skills, such as listening, nonverbal communication; building trust, sensitivity, honesty; self-awareness; collaborative effort, and paying attention to religious needs [15]. Because of the specific conditions and nature of chronic diseases, the patients have a great tendency toward spiritual and religious issues [16]. Spirituality not only affects people's moods and mental health but also improves their physical conditions [17]. For this reason, spirituality and its importance in health and disease are increasingly highlighted in various studies [18, 19].

The study results supported the effect of spiritual care training on the acceptance of daily life, reduction of negative thoughts, anxiety, and depression, increased peace, development of communication, and improved self-confidence in cancer patients [20]. However, Ikedo et al. reported that spiritual intervention did not significantly affect recovery outcomes following cardiac surgery [21]. Regarding the mentioned points, it is crucial to have sufficient information about spiritual care. It can play a major role in paying attention to the spiritual aspects of a patient's care. Moreover, despite much evidence on the effectiveness and usefulness of spirituality in the adjustment process of patients with chronic medical problems, spiritual issues are still not considered the main components of routine care. Therefore, it is essential to pay attention to spiritual needs and fulfill these needs [22]. The present study was conducted to investigate the effect of spiritual care on death anxiety and self-esteem of patients with MS.

## Materials and Methods

The present study is a two-group randomized clinical trial study with a parallel design. The study population included all patients with MS referred to the Multiple Sclerosis Support Association and the Neurology Clinic of a hospital in Hamadan City, Iran, in 2019. The sample size was estimated as 30 in each group considering test confidence level of 95% ( $1-\alpha=0.95$ ) and the test power of 90%, according to the  $\mu_1=7.39$ ,  $\mu_2=11.30$ ,  $SD_1=1.67$ ,  $SD_2=4.09$  corresponding to the anxiety score before and after receiving the intervention based on the results of a similar study [23].

The inclusion criteria were being in the age range of 18-65 years, having writing and reading skills, living in Hamadan City, Iran, not suffering from other acute and chronic diseases, passing 6 months after the definitive diagnosis of MS based on neurological examinations and magnetic resonance imaging by a neurologist, being aware of the diagnosis, not being at the acute stage of the disease, lacking confirmed mental disorders, visual and auditory disability, cognitive problems such as Alzheimer disease, and stroke and transient stroke based on medical records, having expanded disability status scale score equal to or less than 4.5 (this score is determined by a neurologist and indicates that the patient has no motor or cognitive problems). The severity and stage of the disease were assessed based on this scale. The exclusion criteria of the study were the occurrence of a crisis after the start of research for the patient, withdrawal from the study for any reason, dissatisfaction with the number and timing of sessions and educational content,

and reasons such as recurrence of disease (acute phase experience), and death of the patient.

Sixty patients were selected using a convenience sampling method according to the inclusion criteria. Next, they were assigned into interventional and control groups using a permuted block randomization method by blinding. The patients were assigned to two groups based on the quadruple random sequence method in the R software (ABAB, ABBA, BAAB, AABB, BBAA, and BABA). After determining the random sequence, each sequence was recorded on a card and concealed in a sealed envelope. Eventually, 60 envelopes in the package were given to the principal researcher (Figure 1).

Three tools were used to collect data in the present study. Demographic and clinical information questionnaire (that contains information including age, frequency of hospitalizations in the past year, duration of disease, degree of disability, gender, marital status, level of education, job, belief in complementary therapies, and history of MS in the family), Templer death anxiety scale, and Rosenberg self-esteem scale.

The Templer death anxiety scale contains 15 items, which measure subjects' anxiety about death. Subjects mark their answers in each question with "Yes" or "No" options. The answer "Yes" indicates anxiety, and "No" a lack of anxiety. Depending on the answer of "Yes" or "No", a score of 0 or 1 is assigned to it, respectively. Thus, scores on this scale can range from 0 (no death anxiety) to 15 (very high death anxiety). The Templer death anxiety scale is a standard questionnaire that has been widely used in domestic and foreign studies [24]. In our study, the Templer death anxiety scale was used that has been translated into Persian and psychometrically valued [25].

The Rosenberg self-esteem scale was developed in 1965 by Rosenberg [26]. This scale is a standard measure that includes 10 items assessing the real feelings of people about each item in one of four options of "I strongly agree"=0, "I agree"=1, "I disagree"=2, and "I strongly disagree"=3. The total score is obtained by summing up scores given for 10 questions. Thus, a score of 0 indicates a minimum, and a score of 30 indicates maximum self-esteem. Five items (1 to 5) are presented positively, and 5 others (6 to 10) are scored negatively. The psychometric version in Persian of this questionnaire has been used [27].

To provide spiritual care for the intervention group, the researcher introduced himself to the participants,

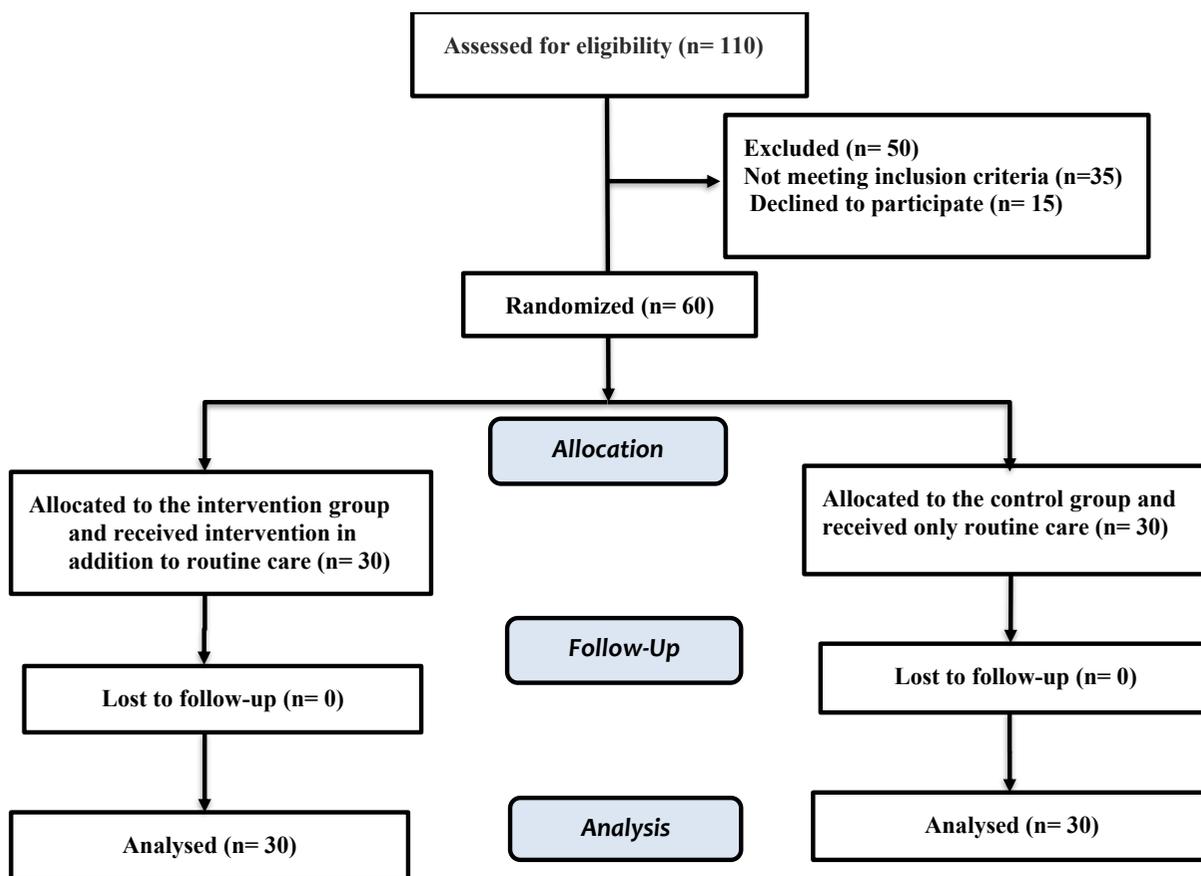


Figure 1. Consort flowchart

expressed his abilities, and gained the trust of patients and their families. In this regard, the cooperation and participation of the patient and family in implementing the care and accepting it are among the essential elements of spiritual care. In this study, spiritual care consisted of 4 one-hour group sessions (groups with 8 to 10 randomly selected members) twice a week in one of the training classes at a hospital. In the intervention group, in addition to routine care, the interventions were performed according to Table 1. The control group received only routine care. The demographic information questionnaire, Templer death anxiety scale, and Rosenberg self-esteem scale were completed before and immediately after the intervention in the interventional and control groups. Before implementing the spiritual care program, a care-training package (booklet and CD) was prepared for patients with MS with extensive library studies and a review of articles. Then, it was submitted to the patients in the intervention group. To observe the research ethics, after completing sampling, this package (booklet and CD) was given to the control group.

Data collection started in April and was completed in June 2019, and the control and intervention groups did not have contact with each other. SPSS 16 was used

to analyze the obtained data. Descriptive statistics and independent t test, the Chi-square, and Fisher exact tests analyzed the obtained data. In the case of the non-normal distribution of data, the non-parametric equivalents of the tests, i.e., Mann-Whitney U and Wilcoxon signed-rank test, were used. Analysis of Covariance (ANCOVA) was used to confirm the effect of the intervention on the dependent variables. As a measure of effect size, the partial eta squared coefficient was computed.

### Results

The Mean±SD ages of samples were 32.8±6.39 years in the intervention group and 35.1±8.35 years in the control group. The frequency of hospitalizations in the past year was 1.7±0.84 in the interventional group and 1.8±0.89 in the control group. Also, the duration of the disease was 5.57±3.58 years in the interventional group and 7.3±4.4 years in the control group, and the degree of disability of the patient in the interventional group was 2.85±0.76 and in the control group was 2.87±0.69. The Independent t test results showed no significant difference in the mentioned variables between the control and interventional groups. Other demographic variables are listed in Table 2. Using the Kolmogorov-

**Table 1.** Content of training sessions

Sessions	Educational Content
First step: Supportive presence	Familiarity with multiple sclerosis, symptoms, complications of the disease, the importance of preventing and controlling these complications, the importance of paying attention to diet and drugs, and the importance of reducing anxiety and stress Building trust, empathy, and honesty between the nurse and the patient to establish a proper therapeutic relationship; listening carefully to patients' words, concerns, and worries; providing psychological support to patients; using positive sentences and strengthening healthy and constructive thinking; establishing verbal and non-verbal communication with patients; answering patients' questions and explaining the treatment process, as well as giving information and awareness to patients about the disease to reduce their physical and mental stress; encouraging patients to use recreational and spectacular spaces; considering the duration time of each session
Second step: Supporting patient rituals	Helping patients to discover the meaning and concept of life and paying attention to the fact that none of the events of life is beyond the divine destiny and providence; encouraging patients to read prayers and Quran; encouraging patients to express their religious beliefs; encouraging patients to visit religious clerics
Third step: Use of patient supportive systems	Encouraging patients to visit people with whom they can feel comfortable; emotional support of patients by medical staff; recommending patients to perform their normal and daily responsibilities such as doing house works; encouraging the patient to be at work
Fourth step: Summarizing the contents	The taught materials were summarized during the last three sessions, and patients were asked to express their opinions and questions in the field of spiritual care. The possible ambiguity of patients in the field of educations provided was resolved

**Table 2.** Demographics and clinical characteristics of the participants

Variables	No.(%)		Sig.	
	Control Group(n=30)	Intervention Group(n=30)		
Sex	Male	(50) 15	(50) 15	0.1*
	Female	15(50)	(50) 15	
Marital status	Single	11(36.7)	17(56.7)	0.0001**
	Married	18(60)	0(0)	
	Divorced	1(3.3)	13(43.3)	
Education	High school	5(16.7)	4(13.3)	0.143*
	Diploma	14(46.7)	11(36.7)	
	Higher than diploma	11(36.7)	15(50)	
Job	Housewife	12(40)	12(40)	0.02**
	Employee	9(30)	9(30)	
	Student	1(3.3)	6(20)	
	Unemployed	1(3.3)	3(10)	
	Retired	7(23.3)	0(0)	
Belief in complementary therapies	Yes	25(83.3)	22(73.3)	0.53*
	No	5(16.7)	8(26.7)	
History of Multiple Sclerosis in the family	Yes	11(36.7)	2(6.97)	0.01*
	No	19(63.3)	28(93.3)	

\* The Chi-squared test; \*\* The Fisher exact test

**Table 3.** Comparison of mean death anxiety of patients with multiple sclerosis before and after the intervention

Groups	Mean±SD		Min-Max		Sig.*
	Before	After	Before	After	
Control (n=30)	12.27±0.85	12.10±0.61	11.25-15	9.75-15	0.317
Intervention (n=30)	11.87±0.88	8.13±0.71	9.75-15	5-11.25	0.01
Sig.**	0.647	0.001			

\* The Wilcoxon Test; \*\* the Mann-Whitney U test.

Smirnov test, the hypothesis of normality for the data was rejected before and after the intervention in the control and interventional groups in the death anxiety and self-esteem section. Therefore, non-parametric Mann-Whitney U and Wilcoxon statistical tests were used to compare the two groups.

The mean score of death anxiety and self-esteem before the intervention in the control and intervention groups was not significantly different. After the intervention, there was a significant difference between the control and interventional groups in death anxiety score (12.10±0.61 vs. 8.13±0.71, P=0.001; Table 3) and self-esteem (14.67±1.9 vs. 18.03±1.85 P=0.001; Table 4). The results of ANCOVA demonstrated a significant difference between control and intervention groups in terms of death anxiety (F=6.41, P=0.014, partial Eta<sup>2</sup>=0.101) and self-esteem (F=13.079, P=0.001, partial Eta<sup>2</sup>=0.187) in MS patients (Table 5).

### Discussion

Based on the results of the spiritual care program, the death anxiety score of the intervention group was significantly lower than that of the control group. Also, the death anxiety score of the intervention group after providing spiritual care decreased significantly compared to before training, but no significant change was observed in the death anxiety score in the control group. Dalal et al. showed the effect of spiritual care training on de-

pression, anxiety, and vital signs in patients undergoing angioplasty [28]. The results of our study are consistent with that study. Sankhe et al. showed the effect of spiritual care on patients with generalized anxiety and depression [29]. Abou Chaars [13] and Oshvandi et al. evaluated the effect of the spiritual care program on the death anxiety of patients under hemodialysis. They showed a significant difference in the death anxiety of the interventional group [30]. Our results were in line with their study results. Azimian et al. also showed the effect of spiritual care programs on death anxiety in patients with cardiovascular diseases [31]. However, Oshvandi et al. showed that spiritual care promotes hope in Muslim patients undergoing hemodialysis [32]. One of the reasons for the effectiveness of spirituality care is creating a positive attitude toward oneself, the environment, and the future. Spirituality may help a person better assess negative events and gain a stronger sense of control over existing situations by targeting their beliefs. The reasons for the coherence of the present study with the mentioned studies can be interpreted as spiritual care is one of the basic concepts for dealing with the problems and stress caused by chronic diseases. Patients whose spiritual health is enhanced can effectively adapt to their illness, and spiritual counseling, if appropriate to a person's culture and beliefs, can respond to the deepest needs, concerns, and problems of individuals. They find meaning in life and, as a result, reduce the anxiety of these patients.

**Table 4.** Comparison of mean self-esteem of patients with multiple sclerosis before and after the intervention

Groups	Mean±SD		Min/Max		Sig.*
	Before	After	Before	After	
Control (n=30)	14.63±1.51	14.67±1.9	6-22	3.75-24.50	0.824
Intervention (n=30)	15.57±1.5	18.03±1.85	6.75-25	7-28	0.01
Sig.**	0.454	0.001			

\* The Wilcoxon test; \*\* the Mann-Whitney U test.

**Table 5.** Results of ANCOVA on pre-test and post-test scores of death anxiety and self- esteem between groups

Sources	Sum of Squares	df	Mean Square	F	Sig.	Partial Eta <sup>2</sup>
Group	72.199	1	72.199	13.079	0.001	0.187
Self-esteem (before)	5844.008	1	5844.008	1058.636	0.0001	0.949
Error	314.658	57	5.520			
Group	11.493	1	11.493	6.410	0.014	0.101
Death anxiety (before)	127.141	1	127.141	70.915	0.0001	0.554
Error	102.193	57	1.793			

Before the spiritual care program, the self-esteem scores of the control and intervention groups were not significantly different. But, after that, the self-esteem score of the intervention group was significantly higher than that of the control group. Spiritual care increases patients' self-confidence and increases the power of internal control and cognitive abilities. Spiritual care also enhances compensatory mechanisms against mental emotions [33]. Religion is one of the most effective psychological elements that can save a person from meaninglessness and lack of identity in all stages of life, especially in difficult and critical situations, and replace positive beliefs with negative ones [34].

Loureiro et al. study results showed that spiritual and religious care training reduced suicide risk and mental health [35]. Another study showed that spiritual intervention increased self-esteem and happiness in male addicts undergoing methadone maintenance treatment [36]. In addition, similar results have been shown in other studies that have examined the effect of spiritual care [37, 38]. Self-esteem is one of the variables related to mental health, and it seems that those with high spiritual health and religious beliefs have a higher level of self-esteem, especially in the case of chronic diseases. If patients interpret their illness in the light of the general meaning of life and the form of a strong relationship with God through gaining peace afterward, they can make themselves more resistant to the psychological damage caused by the disease. Based on the present study and analysis of the results, the spiritual care program reduced the death anxiety of MS patients and increased their self-esteem. Considering the effectiveness of the present study results and the emphasis of the mentioned articles on the effectiveness of spiritual therapy in many acute and chronic diseases, it is recommended to use a spiritual care program along with drug therapy and other necessary treatments in patients with acute and chronic diseases. The reason is that the

inclusion of spiritual care in the patient's treatment protocol does not cause side effects or impose additional costs. Moreover, it is associated with follow-up and persistence in the need for cooperation and execution of instructions by the patient and their family.

One of the limitations of the present study is the effect of patients' mental and psychological conditions when completing the questionnaire, which was beyond the researcher's control. Also, the willingness of MS patients to participate in the study, its non-invasive nature, complementarity, and low-cost spiritual care programs can be the strengths of this study. Regarding the results of the present study and its limitations, it is recommended to conduct a study with long-term follow-up and more sessions of spiritual care program.

## Ethical Considerations

### Compliance with ethical guidelines

This study was registered in Iran Clinical Trial Center under the Code IRCT20120215009014N260. The ethical considerations of the study included obtaining permission from the Ethics Committee (Code: IR.UMSHA.REC.2018.649). This study was conducted following the 1964 Declaration of Helsinki and its later amendments or comparable ethical standards. The subjects were assured that their participation was voluntary, and they could withdraw at any time without facing any negative consequences. All participants provided their written informed consent.

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### Author's contributions

Conceptualization: Efat Sadeghian, Khodayar Oshvandi, and Ali Akbari; Writing – original draft: Efat Sadeghian and Ali Akbari; Data collection: Ali Akbari and Danial Shadi; Data analysis: Naser Kamyari; Reviewing the final edition: All authors.

### Conflict of interest

All authors declared no conflict of interest.

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