

# Investigating the association between spiritual well-being and psychological symptoms in multiple sclerosis patients: A cross-sectional analytical study

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## Abstract

**Introduction:** Multiple sclerosis is one of the important diseases of the central nervous system. Spiritual health is effective in various dimensions of chronic diseases and psychological symptoms are also common in multiple sclerosis. This study was performed with the aim of determining the association between spiritual health and psychological symptoms in these patients.

**Material and methods:** This research is a cross-sectional analytical study that was done with convenience sampling and participation of 200 multiple sclerosis patients who are members of the MS Society of Jahrom city in 2023. The data collection tools were the Spiritual Well-Being Scale developed by Paloutzian and Ellison (1982) and the Depression, Anxiety, and Stress Scale with 21 items (DASS-21). SPSS 21, descriptive statistics and Spearman tests were used to analyze data.

**Results:** The findings showed that the majority of patients had moderate spiritual health (50%). 48.5% of patients also had high spiritual health. The findings showed that the stress level, anxiety and depression of the majority of patients were moderate. Spearman's correlation test revealed a significant negative relationship between spiritual health and stress, anxiety and depression in multiple sclerosis patients ( $p = 0.001$ ,  $r = -0.59$ ).

**Conclusions:** The findings suggest that by increasing the level of spiritual health in patients, the levels of stress, anxiety and depression in patients decrease.

**Key words:** spiritual health, stress, anxiety, depression, multiple sclerosis.

## Introduction

Multiple sclerosis (MS) is a chronic illness that destroys the myelin of the central nervous system and affects sensory and motor function (Dehghani *et al.*, 2019). This disease is one of the most common neurological diseases in people (Dobson and Giovannoni 2019). About 2.5 million people in the world are suffering from MS and every week 200 people are added to them. As a result, 80% of sufferers have some degree of disability and the condition of only 1 out of 5 people remains stable and does not progress towards disability (Mahdizadeh *et al.* 2019). According to the latest statistics of the Iranian MS Society, the number of MS patients is 78,890 (Iran MS Society 2018). Based on the study by Azami *et al.* (2019), the prevalence of MS in men and women was estimated at 16.5 and 14.8 per

100,000 people in Iran, respectively. Therefore, the increasing trend of MS patients in Iran calls for the need to pay attention to the treatment and problems of the patients.

Psychological symptoms including stress, anxiety and depression are common problems in these patients, which can affect different aspects of life, including quality of life, daily functioning, and social and family life in these patients (Ramezani *et al.* 2021). Therefore, it is essential that health care professionals pay more attention to psychological symptoms in these patients and regularly evaluate these symptoms in patients. Often in chronic diseases, the psychological aspects of the disease are ignored, while most patients adapt to these psychological aspects (Ghodspour *et al.* 2018). On the other hand, most patients with MS also believe that stressful events and depression and anxiety symptoms

can aggravate the disease (Ghodspour *et al.* 2018; Hanna and Strober 2020). The results of a study on MS patients showed that symptoms of relapse and frequent hospitalizations were more common in patients with higher stress levels. The results of this research showed that 85% of cases of exacerbation of multiple sclerosis were related to stressful events (Homayuni *et al.*, 2021a). Also, the results of studies indicate that the negative effects of stress, anxiety and depression in these patients have caused many patients to abandon their work (Homayuni *et al.*, 2021a; Hanna and Strober 2020). Therefore, since these psychological symptoms in MS patients have a high prevalence and can affect all aspects of the patients' quality of life, it is necessary to pay more attention to reducing these symptoms.

There are several concepts about how to adapt and face with the psychological symptoms caused by the disease. One of these concepts is spiritual health, which, as one of the dimensions of health, causes the integration of other dimensions of health in people (Juškieñė 2016). According to the definition of the World Health Organization, health has different physical, mental, social and spiritual dimensions, and since spiritual health is a superior power of human interaction with the universe (Akbari and Hossaini 2018) it is essential to consider spiritual health and spirituality as one of the dimensions of health in patients, especially patients with chronic diseases (Tirgari *et al.* 2022). Spirituality, as an awareness of existence or power beyond the material dimension of life, creates a deep sense of unity or connection with the universe (Skrzypińska 2021b). Spirituality as a health promotion activity can play an important role in how patients deal with the consequences of MS (Homayuni *et al.* 2021b). Studies have shown that spirituality can have a positive effect on quality of life, health and life satisfaction in patients (Homayuni *et al.* 2021b; Desborough *et al.* 2020). However, less information is available about young patients with chronic diseases such as MS (Homayuni *et al.* 2021b). Many studies also indicate the relationship between spirituality and physical and mental health and improving adaptation to illness (Bravin *et al.* 2019; Lucchetti *et al.* 2021). Among the results of McNulty *et al.*'s study (2004) on patients with MS, spiritual beliefs were found to be beneficial in adapting to the disease. The results of the Balboni *et al.* study (2022) also showed that those who found the meaning of life in the disease based on spirituality had a better quality of life. Therefore, since technical interventions related to life-threatening factors

have not been able to respond to the problems faced by incurable patients, paying attention to strong parameters such as spiritual health in different societies is expanding (Scherer *et al.* 2021). Also, in addition to medicinal actions, the effect of non-medicinal actions such as exercise, energy conservation strategy, and the use of spiritual and religious interventions on reducing disease symptoms also needs investigation and research.

The present study was conducted with the aim of determining the association between spiritual health and stress, anxiety and depression in MS patients.

## Material and methods

The current research was a cross-sectional analytical study that was done with the aim of determining the association between spiritual health and stress, anxiety and depression in MS patients of the Jahrom MS Society in southern Iran from January to June 2023. In this research, the convenience sampling method was used to select research samples. In this way, the researcher was present at the place of the MS Society on consecutive days and at different hours of the day, and the patients completed the research questionnaires. The sample size in the current research was determined to be 193 people with a confidence coefficient of 95% and a test power of 80%.

The inclusion criteria included diagnosis of multiple sclerosis by the physician, age range 18-50 years (due to the prevalence of MS disease during this period), experience of at least one year of the disease, literacy and willingness to participate in the study. Exclusion criteria included suffering from other acute or chronic physical, mental or psychological disorders and incomplete completion of study questionnaires.

### Data gathering tools

1. Demographic characteristics of patients including age, sex, marital status, education, duration of disease, frequency of disease recurrence in the last year, number of hospitalizations in a year and type of MS.
2. Spiritual Well-Being scale: In this research, in order to measure spiritual health, the Palutzin and Ellison (1982) Spiritual Well-Being scale was used. This questionnaire has 20 options. The total score of spiritual health is between 20 and 120. The answers to these questions are classified as a 6-item Likert scale from completely disagree to completely agree. The spiritual health of people is divided into three

categories: low (20–40), moderate (41–99) and high (100–120) (Paloutzian and Ellison 1982). The validity and reliability of this questionnaire were implemented and confirmed in Iran by Farahaninia *et al.* in 2004 on 283 nursing students. The reliability rate using Cronbach's  $\alpha$  coefficient for this questionnaire has been reported as  $r = 0.82$  (Farahaninia *et al.* 2006).

3. Depression, Anxiety and Stress Scale – 21 items (DASS-21): In this research, the DASS-21 scale was used to evaluation of patients' stress, anxiety and depression. The scale of this questionnaire is not at all (score zero), low (1), moderate (2) and high (3). In this tool, there are 7 items related to checking stress, 7 items related to checking anxiety and 7 items related to checking depression. The rating of this tool is such that numbers between 0 and 4 are considered as normal stress, anxiety and depression, 5 to 11 as moderate stress, anxiety and depression, and more than 12 as severe stress, anxiety and depression (Lovibond and Lovibond 1995). The DASS-21 questionnaire has been used in Iranian studies, including the studies by Aghebati (2005) and Ghafari *et al.* (2008). The validity and reliability have been confirmed. The reliability of this tool has also been confirmed in various studies, including the study of Ghafari *et al.* for anxiety with  $r = 0.71$ , stress with  $r = 0.74$ , depression with  $r = 0.97$  and the reliability of the whole tool with  $r = 0.91$  (Ghafari *et al.* 2008).

### Statistical analysis

The process of data analysis was done using SPSS 21 and using descriptive and analytical statistics. For the purposes of descriptive statistics, statistical indicators such as mean, standard deviation, frequency and percentage were used. Spearman's test was used to determine the correlation between spiritual health and stress, anxiety and depression. The significance level was considered as  $p \leq 0.05$ .

### Ethical approval

This research was confirmed by the ethics committee of Jahrom University of Medical Sciences (Ethics Number: IR.JUMS.REC.1400.051). All nurses signed an informed consent form. The objectives and method of the research were explained to them and they were then given sufficient assurance regarding the confidentiality of the information. Also, this study was carried

out according to the ethical principles of the Declaration of Helsinki.

## Results

Based on the findings, the age of the patients participating in the research was  $33.31 \pm 9.79$  years. Also, the average experience of the disease was  $6.38 \pm 4.85$  years. Other data are presented in Table 1.

According to the findings presented in Table 2, the majority of patients had moderate spiritual health (50%), 48.5% of patients had high spiritual health, and 1.5% of patients had low spiritual health.

According to the findings presented in Table 3, the stress, anxiety and depression levels of the majority of patients were moderate.

Table 1. Demographic characteristics of patients participating in the research (200 people)

Demographic characteristics	n (%)
Gender	
Male	65 (32.5)
Female	135 (67.5)
Marriage	
Single	73 (36.5)
Married	101 (50.5)
Divorced	26 (13)
Education	
Under diploma	60 (29.9)
Diploma	83 (41.3)
Upper diploma	58 (28.9)
Frequency of disease recurrence in the past year	
No recurrence	114 (56.7)
One	56 (27.9)
Two	20 (10)
More than two	11 (5.5)
Number of hospitalizations in the past year	
No hospitalization	115 (57.2)
One	61 (30.3)
Two	18 (9)
More than two	7 (3.5)
Type of drug	
Moderator	172 (85.6)
Combinatory	26 (12.9)
No medication	3 (1.5)
Age	
Mean $\pm$ standard deviation	$33.31 \pm 9.79$
Experience of disease	
Mean $\pm$ standard deviation	$6.38 \pm 4.85$

Table 2. Levels of spiritual health in multiple sclerosis patients

Spiritual health levels	Low spiritual health		Moderate spiritual health		High spiritual health	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
	3	1.5	100	50	97	48.5

Table 3. Levels of stress, anxiety and depression in multiple sclerosis patients

Stress, anxiety and depression levels	Stress			Anxiety			Depression		
	Normal	Moderate	Severe	Normal	Moderate	Severe	Normal	Moderate	Severe
	51 (25.5)	125 (62.5)	24 (12)	80 (40)	101 (50.5)	19 (19.5)	80 (40)	99 (49.5)	21 (10.5)

Table 4. Correlation between spiritual health and stress, anxiety and depression in multiple sclerosis patients

Spearman's correlation	Stress	Anxiety	Depression
Spiritual health	$p = 0.03$ $r = -0.39$	$p = 0.001$ $r = -0.42$	$p = 0.01$ $r = -0.51$

According to Spearman's correlation test, there was a significant negative correlation between spiritual health and stress ( $p = 0.03$ ,  $r = -0.39$ ), anxiety ( $p = 0.001$ ,  $r = -0.42$ ) and depression ( $p = 0.01$ ,  $r = -0.51$ ) in MS patients. This means that with the increase in spiritual health in patients, the levels of stress, anxiety and depression decreased (Table 4).

## Discussion

The emergence of mental problems in people with chronic illness and their complicated and long treatments have been considered as important concerns for the personnel of the care team (Howard and Khalifeh 2020). The present study was conducted with the aim of determining the relationship between spiritual health and psychological symptoms among patients with MS. Based on the findings, a strong relationship between spiritual health and psychological symptoms of patients was observed, such that patients with higher spiritual health suffer less from stress, anxiety and depression. Over the past periods, spiritual health has become an increasingly important consideration in the mental health profession (Milner *et al.* 2020).

The findings of this study are similar to the previous findings and those obtained in previous research, in people reporting a higher rate of participation in spiritual programs as well as reporting reduced problems of depression (Brown *et al.* 2013).

Brown *et al.* (2013) found that people reporting higher rates of religiosity and spiritual health might also experience a decrease in psychological and emotional disease. Also, the findings of the Zare *et al.* (2019) study showed that there was

a positive and significant correlation between spiritual wellbeing and mental health in cancer patients receiving chemotherapy.

Results of studies also revealed that spiritual health is a significant agent of positive physical and mental health consequences (Perkins *et al.* 2021; Yamada *et al.* 2020) and could serve as a significant support approach when adapting to a life-threatening illness with decreasing psychological disorders like depression. As a result, patients with higher spirituality exhibit better coping skills and adapt to chronic disease, increased psychological well-being and quality of life than individuals without these beliefs (Scherer *et al.* 2021). A systematic meta-analysis of 147 studies of depression and spiritual health in the community at large showed a low but statistically significant correlation, such that individuals who were more spirituality experienced had lower depressive signs (Smith *et al.* 2003). The results of these studies revealed that individuals who experience stressful negative life events, such as chronic diseases, may use spirituality to find meaning and purpose with the benefit of mitigating psychological signs (Smith *et al.* 2003; Wilson *et al.* 2017).

The results of the study by Bożek *et al.* (2020) show that both spirituality and health-related behaviors are positively related to psychological well-being. The results of the Martínez and Custódio (2014) study showed a significant correlation between mental health and spiritual wellbeing. The findings of this study showed that spiritual health was the strongest predictor of mental health, psychological distress, and psychosomatic complaints. Similar to the results of our study, the results of Senmar *et al.* (2020) indicated a negative and significant relationship

between the total score of spirituality and the levels of stress, anxiety, and depression.

Overall, the results of the research suggest that people with higher rates of spiritual health may also experience an improved sense of well-being and a decline in psychological, emotional, and physical disease. Individuals are more likely to use spiritual health as an approach for better coping with their illness. This matter could be taken into consideration by the health teams of these patients to consider essential methods to increase spiritual health and provide spiritual care.

This study had several limitations. First, the samples may not be representative of all patients with MS in Iran, as patients were recruited from one center in the south of Iran. Also, a convenience sampling approach was one of the limitations of this research.

## Conclusions

The findings showed that by increasing the level of spiritual health in patients, the levels of stress, anxiety and depression in MS patients decrease. Therefore, by using appropriate interventions and planning in this regard, by increasing the state of spiritual health and spirituality in these patients, the psychological symptoms of the patients can be reduced in order to improve the quality of life.

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## Disclosure

The authors declare no conflict of interest.

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