

## Original Article

# The Effectiveness of Spiritually Multidimensional Psychotherapy (SMP) on Psychological Capital and Stress Symptoms of Patients with Type 2 Diabetes

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### Abstract

**Background and Aim:** Psychological stress often raises blood sugar levels in people with type 2 diabetes. Psychological capital has a protective role and leads to the healthy state of individuals. The current study aimed to investigate the effect of spiritually multidimensional psychotherapy (SMP) group training on psychological capital and stress symptoms in type 2 diabetic patients.

**Materials and Methods:** The research was semi-experimental research with a control group. The statistical population consisted of all patients with diabetes covered by the Mashhad Diabetes Foundation. From this group, 60 people were selected by network method or snowball and were randomly divided into two groups (experimental and control). The experimental group received spiritually multidimensional psychotherapy group training in 12 sessions of 90 minutes weekly. Before and after the intervention, a stress symptoms questionnaire and psychological capital were performed in both experimental and control groups. Data analysis was performed using univariate and multivariate covariance using SPSS.21 software.

**Results:** The findings revealed that spiritually multidimensional psychotherapy (SMP) had a significant effect on psychological capital ( $P < 0.001$ ) and stress symptoms ( $P < 0.001$ ). Likewise, this effect on the components of self-efficacy, hope, resilience, and optimism was significant ( $P < 0.001$ ).

**Conclusion:** It can be concluded that spiritually multidimensional psychotherapy training can increase psychological capital and decrease stress symptoms in patients with type 2 diabetes.

**Keywords:** Spiritually, Psychological capital, stress symptoms, diabetes

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## Introduction

Chronic diseases are a significant burden for the health care system worldwide (1). Chronic diseases such as diabetes are common and unpleasant diseases that require a lot of primary care (2). Diabetes has been described as a chronic and complex metabolic endocrine disease and the leading cause of death worldwide, and type 2 diabetes is the most common type of diabetes, compelling more than 90% of diabetes cases worldwide and is a multifactorial and complex disease that includes genetic and environmental factors (3). It is important because it starts in middle age and adulthood (4). However, today, many children develop this disease due to unhealthy lifestyles such as less physical activity, consumption of sugary drinks, and unhealthy nutrition (5). The International Diabetes Federation (IDF) estimates that the number of people with diabetes will reach more than 629 million by 2045. Meanwhile, 212 million people remain undiagnosed (6). The prevalence of diabetes is significantly higher among women than men. Also, diabetes increases significantly in both sexes as age increase (7). It seems that psychological factors play a role in controlling this disease. One of these psychological factors is stress. Research showed that depression, anxiety, and stress in patients with type 2 diabetes were significantly high (8). In people with type 2 diabetes, psychological stress often increases blood sugar levels (9). Long-term stress can also raise blood sugar levels, and people who are under pressure may not take care of themselves, consume alcohol or exercise, forget about glucose levels or have healthy nutrition due to lack of time. Stress hormones also directly alter blood sugar (10). Cheung *et al.* also showed a positive relationship between glucose and cortisol in a study aimed at investigating the relationship between stress and diabetes in myocardial infarction (11). Quijije also showed that stress and its associated factors such as anxiety and depression have been associated with the pathology of type 2 diabetes (12). He believes the pathology of diabetes is mutual, and it is not possible

to conclude whether diabetes causes stress or stress causes diabetes. However, from the physician's point of view, both are important for controlling the disease and its consequences. Also, the severity of diabetes has a negative relationship with quality of life and has a significant positive relationship with anxiety, depression, and stress (13).

The relationship between spirituality and health has been confirmed in many studies. Da Silva *et al.* found in a study that spirituality and religiosity in addition to developing disease resistance but also increase adult tolerance on other life issues (14). In this regard, John Bozorghi states that despite many kinds of research on the impact of religion-based approaches on psychological disorders, there is always a vacuum of approaches designed on a basis and principled basis (theoretical and practical) based on religious findings. Multidimensional spiritual therapy is a God-like therapy that has been formed to control psychological problems and fundamentally change one's view of life-based on divine assumptions in the Holy Quran about human beings. This method has been developed over 20 years of clinical study. To achieve this theoretical framework, different quantitative and qualitative methods have been used, and after various experiments, a coherent framework has been reached (15). Empirical findings show that this method is known as an effective treatment for anxiety disorders (16), mental health of adolescents (17), helping patients with multiple tissue atherosclerosis (18), and treatment of depression disorder (19).

In multidimensional spiritual therapy based on the above interpretations, disconnection with God leads to disconnection with himself and causes psychological-spiritual conflicts. On the contrary, self-care and primary relationships can strengthen the dominance of intellectual forces and ensure human health and prosperity. By activating the spiritual dimension, spiritual psychological therapy can quickly be realized. Returning to the original equilibrium activates God's transcendence mechanism in the real path and brings the individual to optimal equilibrium with the help of rational mechanisms (20).

Multidimensional spiritual psychotherapy is extended in four perceptual domains where damage to each of

those domains leads to an incomplete understanding of problems and deficiencies in problem-solving skills. These domains include the perceived origin (the perception of their existential origin, i.e., God), the perceived self (the perception of a man of himself in the realm of identity), the perceived existence which includes the world and others (man's perception of the world and the world and others), and the perceived end (the ultimate and ultimate existential perception of himself and his actions). The fundamental cohesion of these areas goes back to a monotheistic perceptual domain that perceives these four areas around Allah's axis (21). These mechanisms, within the framework of the principle of rationality and transcendental self-regulation, provide the grounds for the treatment and transcendence. By activating the spiritual dimension, the treatment of clients with psychological problems is probably done more quickly due to the linkage of changes with the individual's belief system, with less relapse. Since all theories of psychology consider the human being within the framework of perceived and self-perceived existence, the difference between the multidimensional spiritual approach and other theories has been perceived in two areas of origin and end. These two areas relate to the spiritual dimension of man (21).

Considering that the results of the study and survey of Iranian censuses show that 99.4% of the population is Muslim (22) and also that religious and religious backgrounds play an essential role in Iranian life, and also we see an increase in psychological disorders, especially stress in patients with type 2 diabetes, therefore, this study is of particular importance. Meanwhile, the multidimensional spiritual therapy (SMP) model with its remarkable characteristics i.e. "authenticity of human spiritual dimension," "completely derived from religious texts" and "consistent with scientific resources and Islamic culture of Iran" in scientific societies, has been proposed in the treatment of anxiety disorders. Therefore, this study aimed to determine the effect of group training of multidimensional spiritual psychotherapy (SMP) on stress in type 2 diabetic patients.

## Methods

The present study was a semi-experimental with experimental and control groups that was conducted in the second two months of 2020. The statistical population consisted of all patients with diabetes covered by Mashhad Diabetes Foundation. From this community, 89 people were invited by telephone and sampling was done by network or snowball method and finally, 60 people who were stressed were selected according to the inclusion criteria and were randomly divided into experimental and control groups. Due to the problems caused during the coronavirus outbreak and the lack of cooperation of the participants, the snowball method was chosen so that each participant, after justifying and being aware of the details of the research and ensuring compliance with the health protocols, would be willing to cooperate in the research and introduce other people who are faced with the same problem. The criteria for selecting the number of samples based on the effect size of 0.25, alpha 0.05, and power of 0.80 in the two groups, the minimum number of samples to achieve the desired power, 30 in each group totalled 60 people. Inclusion criteria were age less than 55 years, type 2 diabetes (based on medical records), lack of concurrent psychological treatment, lack of obvious symptoms of psychosis, and acceptance to participate in spiritual therapy.

The method of this study was that by obtaining a letter of introduction from research deputy referred to Mashhad Diabetes Foundation and after coordination with the authorities and presenting the research project to the head and its approval, patients were selected based on inclusion and exclusion criteria, and by obtaining written informed consent from them, the plan was implemented. Ethical considerations in this study were that participation in this research was completely optional. Before starting the project, participants became familiar with the specifications of the plan and its regulations. People's attitudes and beliefs were respected. The members of the experimental and control groups were allowed to withdraw from the study at each stage. In addition, the members of the control group, if interested could receive the intervention performed for the experimental group in similar treatment sessions. All documents,

questionnaires, and confidential records were only available to the executors. Informed written consent was obtained from all volunteers.

## Materials

### Stress Symptom Questionnaire

The data collection method was a stress questionnaire (23). The questionnaire has 50 items that measure four categories of stress symptoms (cognitive, emotional, behavioural, and physical). A six-degree Likert scale is used for scoring. Participants identify their answers with options at all, very little, low, medium, high, and very high. All questions have been posed positively. To score the questionnaire, the Likert spectrum is scored from 0 to 5, then the scores of options for each subscale are gathered together. The scores between 0 and 83 stress are low, the score is between 83 and 166 stress is moderate, and the score between 166 and above is high. Total alpha coefficient (0.85), physical

symptoms (0.81), emotional symptoms (0.83), cognitive cues (0.80), behavioral symptoms (0.81) were. Content validity of the questionnaire has been confirmed by experts and experts (22). In the present study, total alpha coefficient (0.80), physical symptoms (0.76), emotional symptoms (0.79), cognitive symptoms (0.77), and behavioural symptoms (0.71) were obtained.

### The Luthans Psychological Capital Questionnaire (PCQ)

Questionnaire was designed in 2007 and has four components of self-efficacy, hope, resilience, and optimism, which has 24 questions, and each component has 6 items. The subject responds to each item on a 6-point Likert scale (strongly disagree 1, disagree 2, somewhat disagree 3, somewhat agree 4, agree 5, and strongly agree 6). To obtain the score of psychological capital, first, the score of each subscale is obtained distinctly, and then their sum is considered as the score of the total psychological capital. Zarean&Latifi (24) also obtained the reliability of the questionnaire based on Cronbach's alpha as 0.87.

**Table 1:** Spirituality Multidimensional Psychotherapy (SMP).

Sessions	Content
<i>Screening session:</i>	Familiarity, pre-testing, and getting informed consent.
<i>Session 1:</i>	Rules and increasing acceptance and motivation, familiarity with spiritualitymultidimensional psychotherapy, and activating natural and God-inclined intellect.
<i>Session 2:</i>	Strengthening the sense of God's presence, awareness of parental images, awareness of the God-image, laying the groundwork for the God-concept, Preparation for the monotheistic and true perception of God.
<i>Session 3:</i>	Further strengthening the sense of God's presence, perceiving the creation attribute, and forming a sense of "being the direct creation of God ."
<i>Session 4:</i>	Understanding the attribute of divinity and support of God and accepting the guardianship of God.
<i>Session 5:</i>	Acquisition of certain beliefs about God-awareness and God-helper, attaining trust, caring for the source (intention of action) in the four spiritual sides.
<i>Session 6:</i>	Authenticating and eliminating the notions of actual and objective fabrications, preparation for self-concept, preparation for activating the life plan (me and God), and increasing monotheism and personality cohesion.
<i>Session 7:</i>	Continuing to authenticate and eliminate false images of the world and others, adjust desire and escape from ego, position, and materiality.
<i>Session 8:</i>	Continuing self-purification, self-purification from others, and purification from God and care from the four spiritual sides. Two mechanisms of patience and express thanks.
<i>Session 9:</i>	Authenticating and eliminating false imaginations of the world and moving towards the world-image, directing emotions and regulating desires, taking care of the four spiritual sides, and saving action in regulating lifestyle.
<i>Session 10:</i>	Authenticating and eliminating false imaginations of the world and moving towards the world-image, taking care of the four spiritual sides, and saving action in regulating lifestyle, continuing to direct the emotions, and regulating the desires.
<i>Session 11:</i>	Examining the perceived afterlife and discussing real perceptions of the afterlife period based on Islamic documents, stimulating the excitement of meeting the beloved.
<i>Session 12:</i>	Strengthening the management of expectations and desires, emotions, and behavior according to the concept of the four perceptual fields, constant communication with God, maintaining balance, and conducting post-test.

The ethical considerations observed in the present study were obtaining the consent of the subjects and observing the ethical criteria. The following protocol was a summary of the multidimensional spirituality psychotherapy (SMP) protocol from Janbozorgi (15) which was developed in 12 sessions and implemented over two months.

The research data were analyzed using repeated-measures ANOVA. Then, the results of these data are discussed, the research hypotheses are discussed, and then the explanations for results are presented

## Results

In the current study, the samples participating in the research project were 30 people (15 in the experimental group and 15 in the control group), and all of them were female. The mean age of the experimental group was 45±8.18, and the mean age of the control group was 45.33±8.36, indicating that the two groups were homogeneous in terms of age. The mean±SD of blood sugar was 135±28.66 in the

experimental group and 135.13±27.26 in the control group.

Levin's F test was calculated to evaluate the similarity of variances in the pretest of the experimental and control groups. It was not significant in the self-efficacy variable (F=0.16, sig=0.70), the hope variable (F=0.63, sig=0.44), the resilience variable (F=0.001, Sig = 0.99) and the optimism variable (F=0.89, sig = 0.35) were not significant at the level of P<0.05, this means that there is no significant difference between the variances of the scores of this scale in the pretest of the experimental and control groups and this assumption based on the similarity of variances in the pretest of the two groups was confirmed. The variances were confirmed in the pretest of the two groups. Kolmogorov-Smirnov Z for all variables was not significant in both groups (P<0.05); consequently, it can be concluded that the scores were normal, and this assumption of use of covariance was observed. Also, the test of variance-covariance homogeneity hypothesis (Box's M=13.63, F=1.15, sig=0.32) showed a significance of more than 0.05. This means that in

**Table 2:** Descriptive indicators of Psychological capital data in type 2 diabetic patients.

Variable	Level	Group	Mean	S.D.
Self-efficacy	Pre-test	Experiment	24.87	3.81
		Control	23.20	3.69
	Post-test	Experiment	28.93	2.15
		Control	22.87	3.44
Hope	Pre-test	Experiment	24.20	2.73
		Control	23.33	3.33
	Post-test	Experiment	28.80	1.70
		Control	23.40	2.80
Resilience	Pre-test	Experiment	19.87	3.48
		Control	20.33	2.89
	Post-test	Experiment	24.53	3.60
		Control	20.67	2.69
Optimism	Pre-test	Experiment	24.93	2.19
		Control	24.20	3.00
	Post-test	Experiment	28.60	1.96
		Control	23.87	2.64
Total psychological capital	Pre-test	Experiment	93.87	8.90
		Control	91.07	7.91
	Post-test	Experiment	110.87	5.93
		Control	90.80	6.81
Stress Symptoms	Pre-test	Experiment	107.30	33.60
		Control	107.7	32.30
	Post-test	Experiment	74.10	31.40
		Control	107.8	27.40

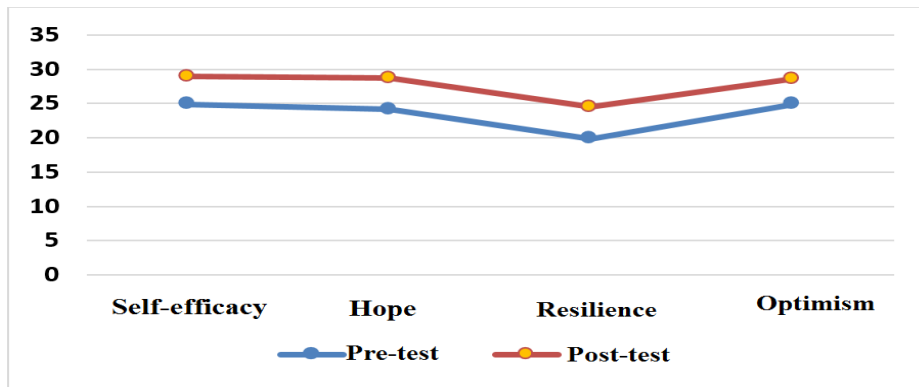


Figure 1. Mean scores of psychological capital components in the experimental group in pre-test and post-test.

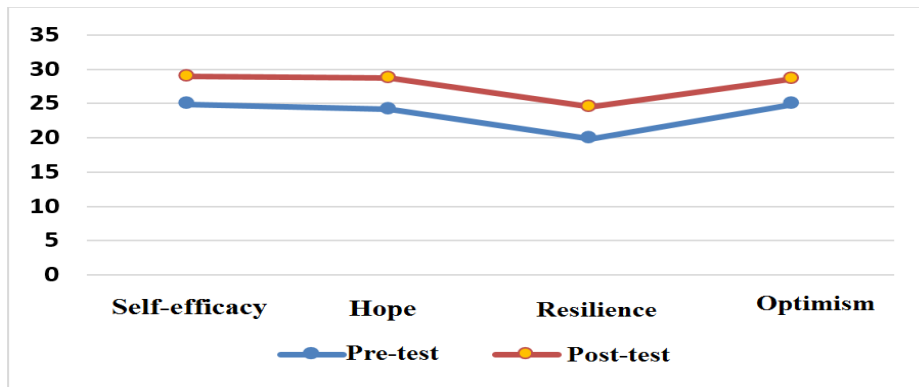


Figure 2. Comparison of the mean scores of the total psychological capital in the experimental and control groups in the pre-test and post-test.

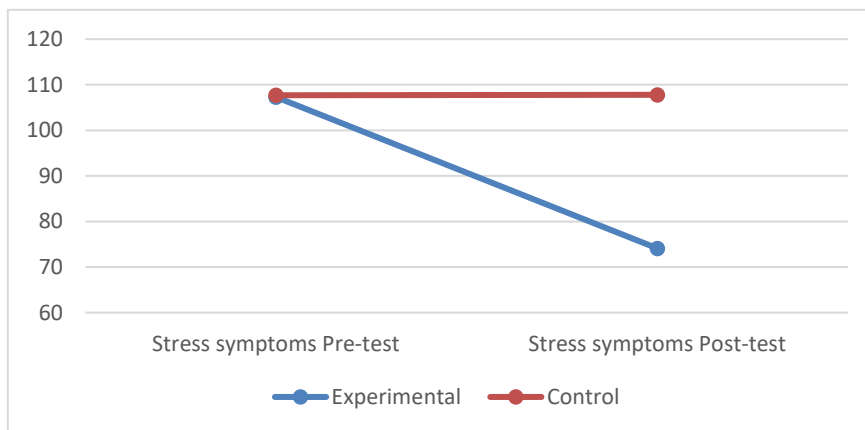


Figure 3. Comparison of the mean scores of the stress symptoms in the experimental and control groups in the pre-test and post-test.

the observed covariance matrices of the quantitative variables of each factor, there is equality. Figure 1 shows the comparison of the mean scores of the psychological capital components of the experimental group, before the intervention and after the intervention, and Figure 2 shows the comparison

of the mean scores of the psychological capital in the experimental and control groups in the pretest and post-test.

The results of the covariance analysis test in Table 3 show the effect of spirituality multidimensional psychotherapy on improving the psychological capital

**Table 3:** Results of analysis of covariance of the effect of multidimensional spiritual psychotherapy on the psychological capital of type 2 diabetic patients.

	SS	df	MS	F	P	Eta
Pre-test effect	551.85	1	551.85	24.38	0.001	0.47
intervention	3548.94	2	1774.47	78.38	0.001	0.85
Error	611.22	27	22.64			

**Table 4:** Results of multivariate analysis of covariance of the effect of multidimensional spiritual psychotherapy on improving the components of psychological capital in patients with type 2 diabetes.

Effect	Test	Value	f	Df hypothesis	df error	P
The difference between the experimental group in the post-test and the pre-test control	Pillai's Trace	0.96	164.189 <sup>b</sup>	4	24	0.001
	Wilks Lambda	0.03	164.189 <sup>b</sup>	4	24	0.001
	Hotelling's Trace	27.36	164.189 <sup>b</sup>	4	24	0.001
	Roy's Largest Root	27.36	164.189 <sup>b</sup>	4	24	0.001

**Table 5:** Univariate analysis of covariance in the text of multivariate analysis of covariance for components of psychological capital.

Sources of index change		SS	df	MS	F	Sig.
The difference between the experimental group in the post-test and the pre-test control	Efficacy	1964.45	1	1964.45	209.00	0.001
	Hope	1982.81	1	1982.81	282.45	0.001
	Resilience	1248.04	1	1248.04	154.23	0.001
	Optimism	1918.99	1	1918.99	349.06	0.001
	psychological capital	1232.41	1	1232.41	40.46	0.001
	stress symptoms	6410.59	1	6410.59	38.98	0.001

of type 2 diabetic patients after adjusting the pretest scores. The impact coefficient is 0.85, and the statistical power is 1.00; this means that there is an 85% chance that the difference is due to the intervention. Consequently, it can be concluded that spirituality multidimensional psychotherapy is effective in improving the psychological capital of type 2 diabetic patients and causes a significant increase in psychological capital scores compared to the control group in the post-test phase. As can be seen in Table (4), the post-test scores of the components of psychological capital and stress symptoms for the experimental and control groups of patients with type 2 diabetes, after removing the pretest effect by multivariate analysis of covariance, exhibited a significant effect on the treatment method

agent. This effect shows that there is a significant difference between at least one of the components of the psychological capital and stress symptoms of patients with type 2 diabetes ( $P < 0.001$ ). As can be seen in Table 5, spirituality multidimensional psychotherapy increased scores of self-efficacy ( $F = 209.00$ ,  $P < 0.001$ ), hope ( $F = 282.45$ ,  $P < 0.001$ ), resilience ( $F = 154.23$ ,  $P < 0.001$ ), optimism ( $F = 349.06$ ,  $P < 0.001$ ), psychological capital ( $F = 40.46$ ,  $P < 0.001$ ), and decreased stress symptoms ( $F = 38.98$ ,  $P < 0.001$ ) in patients with type 2 diabetes there was a significant relationship. In other words, multidimensional spirituality psychotherapy has improved the psychological capital and stress symptoms of patients with type 2 diabetes.

## Discussion

The current study aimed to evaluate the effect of multidimensional spirituality psychotherapy (SMP) group training on psychological capital in patients with type 2 diabetes. The findings show that this treatment was effective on cognitive, emotional, behavioural, and physical symptoms, meaning that the multidimensional spiritual psychotherapy approach helped participants to get a more realistic image of God and themselves and to control stress symptoms. This finding is in line with previous research, such as Da Silva *et al.* (14), that spirituality and religiosity increase people's resistance to disease and other life issues. Also, this finding is in line with the results of Janbozorgi's Research (15) that the short-term model of Islamic therapy is effective in the treatment of anxiety disorders. It is also in line with the results of Rohani *et al.* research (19) on the effect of multidimensional spiritual psychotherapy on improving depression in clients.

In explaining the effect of multidimensional spiritual psychotherapy on improving stress, it can be said that strengthening the relationship with God increases patience and endurance in people and changes their view of insecurity and worthlessness to positive and realistic attitudes. On the other hand, the religious and spiritual nature of individuals that are deeply rooted in their existence makes the spiritual psychotherapy approach more pronounced for them, which makes it easier for them to accept them and eliminate their resistance to change. Feedback from clients in treatment sessions indicated that their guilt and worthlessness were lost. With the activation of natural intellect and removing its barriers, some of the problems related to stress, especially cognitive and behavioural characteristics, improved and irrational beliefs of individuals, were corrected and practiced in their meetings and were able to answer most of their questions in daily life by activating natural intellect. Also, from another perspective, with awareness in the perceptual domain of origin, its perceptual domain, the perceptual domain of existence and others, and the perceptual domain of the end, the strength of the individual's psychological and belief system was provided (25).

In this regard, by correcting God, which is

contaminated with parental and material images, concerned and limited, and reaching God, that is, the true God whom God himself has introduced in the Holy Quran as the light of heaven and earth, the light of hope shined in the stress-filled hearts of these patients, and they understood God as safe and secure from all side and reached their reality. Moreover, their cognitive, behavioural, and emotional characteristics improved human response levels, including behaviours, emotions, emotions, imagination, cognition, interpersonal relationships, and lifestyles of patients with type 2 diabetes to balance and integrity, and improved unpleasant high emotions and their relationships with God, existence, and others, as well as by practicing in three ways: mind and body (nutrition, sleep, exercise, and relationship) and practice. In improving these four important issues, physical symptoms of stress also decreased (26-29).

## Conclusion

The present study was accompanied by limitations such as the implementation of group education at the time of the coronavirus pandemic and patients with diabetes were also sensitive people in the society in terms of COVID-19, so observing the principles of hygiene, cleanliness and social distancing and compulsory use of masks and gloves were the basic and necessary conditions for holding meetings. Using a non-contingent sampling method in sampling was the most important limitation of this research. It is suggested that the random sampling method be used in future studies for better generalization. It is also suggested that the effectiveness of multidimensional spiritual psychotherapy be compared with other psychotherapy methods such as cognitive-behavioral therapy and acceptance and commitment therapy. Finally, it is suggested that multidimensional spiritual psychotherapy along with medical treatments be used as a complementary treatment for patients with type 2 diabetes.

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## Conflict of Interest

The authors declare that they have no conflict of interest.

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