



## The effectiveness of motivational interviewing based on acceptance and commitment on increasing treatment adherence in patients with type 2 diabetes

Naser. Jafarzadeh<sup>1</sup>, Hassan. Mirzahosseini\*<sup>2</sup>, Nader. Monirpour<sup>3</sup>

1. Department of Psychology, Qom Branch, Islamic Azad University, Qom, Iran.

2. Department of Psychology, Qom Branch, Islamic Azad University, Qom, Iran

3. Department of Psychology, Qom Branch, Islamic Azad University, Qom, Iran

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Corresponding Author's Info

Email:

hmirzahoseini@gmail.com

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### ABSTRACT

**Background and Aim:** diabetes is one of the chronic medical diseases with the greatest dependence on the psychological state of the affected people; In the treatments used for diabetic patients, it is often neglected to address the psychological problems of this group, especially people; Therefore, the purpose of the present study was to determine the effect of motivational interviewing based on acceptance and commitment on increasing the treatment adherence of patients with type 2 diabetes. **Methods:** The current study is a quasi-experimental study of pre-test-post-test type with random sampling method, which was carried out on 30 patients with type 2 diabetes, members of Tehran Diabetes Research Institute, who were eligible to participate in the study, in 2018.. The data were collected by using the chronic disease treatment compliance questionnaire that was designed and psychometrically evaluated in Madanlo's thesis in 2012 and by interviewing and taking blood samples. Each member of the intervention group underwent 8 sessions of 90 minutes motivational interview. Data were analyzed using descriptive and inferential statistics tests. **Results:** The results showed that the results of the analysis of variance test with repeated measurements showed that motivational interviewing based on commitment and acceptance is effective in improving people's treatment adherence ( $P < 0.05$ ). Also, the results of the follow-up test show that the motivational interview course based on commitment and acceptance on the group was effective and consistent. **Conclusion:** motivational interview intervention based on acceptance and commitment showed a positive effect on treatment compliance in type 2 diabetes patients; Therefore, it is suggested that this intervention be done in more time and sessions.



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## Introduction

Diabetes is one of the chronic medical diseases with the greatest dependence on the psychological state of the sufferers. Because it requires strong daily treatment management on behalf of the patient (Crouse, Schmitz, and Terd, 2003). Diagnosing chronic diseases such as diabetes initiates the process of successive and continuous evaluations to adapt the patient to the needs and limitations imposed by the disease (Samadzadeh et al., 2013). Some patients are positive and try to do their best (Michael, 1996). Moreover, because adherence to chronic medical conditions requires a special focus on illness acceptance (Lewis & Miller, 2018), some other patients increase their acceptance, which plays a critical role in disease control (Michael, 1996). Considering this importance, it should be mentioned that doctors only understand the disease and treatment instead of the individuality of each patient (Michael, 1996). Also, in the treatments used for diabetic patients, it is often neglected to address the psychological problems of this group, especially people (Atai Maghanlou & Atai Maghanlou, 2015). Nowadays, understanding and changing the patient's attitudes and behavior, which is the goal of cognitive behavioral therapy, is essential in caring for those who have type 2 diabetes. These programs, which deal with patient education and stress-coping skills, can be added to standard medical treatment to address the psychological, behavioral, and lifestyle needs of patients with diabetes (Forman, Herbert, Moitra, Yeomans Vogler; 2007).

Lastman and Gaward (2012) state that disease avoidance is very high in people with diabetes, which may be a factor in not observing the principles of self-care in them (Lastman & Gaward, 2012, quoted by (Shaighian, Amiri, Aguilar Vafai and Basharat, 2014). In fact, the behavioral skills learned by each patient for self-care reflect his perceived ability and self-efficacy in performing these behaviors. Therefore, the patients' motivation for long-term change should be strengthened. As a result, given diabetes is an important factor in mortality and its prevalence is increasing in the world, especially in developed countries (Niteomartínez et al., 2017). And since diabetes is a risk factor for several other diseases, including cardiovascular disease (Venus & DeKönning, 2017). Also, adhering to it and following health recommendations requires acceptance and care (Lewis & Miller, 2018), on

the use of interventions in order to increase the knowledge of diabetes in society and also increase the motivation of patients in their attitude towards health behavior (Misovich, Fisher), Martinez, Bryan, & Catapano, 2006) is recommended for self-care. The main question of the present study is whether the intervention of motivational interviewing based on commitment and acceptance increases the treatment adherence of patients with type 2 diabetes. Affect?

## Method

The current study is a **quasi**-experimental study of pre-test-post-test type with random sampling method, which was carried out on 30 patients with type 2 diabetes, members of Tehran Diabetes Research Institute, who were eligible to participate in the study, in 2018.. The data were collected by using the chronic disease treatment compliance questionnaire that was designed and psychometrically evaluated in Madanlo's thesis in 2012 and by interviewing and taking blood samples. Each member of the intervention group underwent 8 sessions of 90 minutes motivational interview. Data were analyzed using descriptive and inferential statistics tests.

## Tools

**1. 1. Questionnaire of adherence to the treatment of chronic diseases.** This questionnaire was designed and psychoanalyzed in 2013, in Madanlu's thesis, for patients with chronic diseases. In Madanlu's research, the average content validity index of the questionnaire is 0.91. Cronbach's alpha,  $\alpha=0.921$ , calculated the internal consistency of the questionnaire, and the reliability of the treatment compliance tool was measured using the retest method, with a two-week interval, and its correlation coefficient was reported as 0.875. This questionnaire has 40 items in the form of 7 subscales:

- 1) diligence in treatment; I am responsible for my health as much as the treatment team.
- 2) Willingness to participate in treatment; For example, when the disease symptoms become severe, I seek treatment.
- 3) the ability to adapt; For example, before doing anything, I think about its effect on my illness.
- 4) integration of treatment with life; For example, if the family participates in managing life affairs, I will not neglect my treatment.
- 5) treatment adherence; For example, I make treatment recommendations without the control and supervision of the treatment team.

6) commitment to treatment; For example, during the recovery period or when the symptoms of the disease decrease, I stop my treatment.

7) Hesitation in implementing treatment; I don't follow their recommendations by blaming, ordering, and forbidding the treatment team.

The treatment compliance questionnaire is scored using a 6-point Likert scale (from completely to not at all). Finally, the whole scale has 0 to 200 marks.

### Results

The control group was evaluated in three stages without intervention, but the group of motivational interviews based on self-efficacy and the group of motivational interviews based on commitment and acceptance were evaluated once before and once after the intervention and for the third time in the follow-up phase. Reports related to the average index and standard deviation for each group are reported in each of the three stages.

The significance level obtained in the Kolmogorov-Smirnov and Shaypro-Wilk test of the treatment compliance variable in the three stages of pre-test, post-test, and follow-up measurement is greater than 0.05 ( $P < 0.05$ ); in other words, the distribution of none of The data in this table do not significantly deviate from the normal distribution, and the assumption of normality of the data distribution is properly established in the three stages of group measurement.

The significance level in the post-test stage and the follow-up stage between the two control groups and the experimental group is equal ( $p$ -value = 0.00), which is less than the 5% error and the 1% error, so it can be stated with 99% confidence that compliance The treatment of patients with type 2 diabetes has been influenced by motivational interviews based on commitment and acceptance, and this type of interview has had the required effect. The test of treatment compliance components was also conducted, which shows that the score of the control group is significantly lower in all components than the experimental group (motivational interview based on commitment and acceptance); in other words, motivational interview based on commitment and acceptance increases treatment compliance and its continuation. It has been done in diabetic patients, but only in the post-test phase for combining treatment with life; there is no significant difference between the two groups. However, in this dimension, a significant

difference has been observed in the follow-up phase.

### Conclusion

This study determined the effect of motivational interviewing based on commitment and acceptance on increasing treatment adherence of patients with type 2 diabetes. The results of the analysis of variance with repeated measurement showed that motivational interviewing based on commitment and acceptance is effective in improving people's treatment adherence ( $P < 0.05$ ). Also, the results of the follow-up test show that the motivational interview course based on commitment and acceptance on the group was effective and consistent. In line with the explanation of the findings of this research, it can be stated that, due to the mutual relationship between chronic disease and quality of life (Hemti Maslak Pak et al., 2009) and also because the quality of life of a person is not only based on the inner feeling of health and well-being, but also It is defined based on the ability to function properly in different dimensions of life (American Diabetes Association, 2019) and the possibility of accessing resources and opportunities (Fisher et al., 2006), and as mentioned, physically, mentally and socially, cognitively and psychologically (Tricalino et al., 2017) is investigated and is multi-dimensional, patients' information, motivation, as well as their behavioral skills are effective in improving their lives, and patients can be helped through the application of information-motivational-behavioral skills self-care model (Osborne, 2006) to achieve their desired quality of life, while simultaneously controlling their diabetes well. Of course, it should be noted that it is important to understand what quality of life patients with diabetes, especially people, consider because it affects the education of these people according to their different characteristics, such as the level of self-efficacy and self-esteem (Kenowitz, Hogendoorn, Kamisarit and Gonzalez, 2019).

Considering this importance, the self-care model has played an effective role in increasing preventive behaviors and reducing risky behaviors such as sexual behaviors and transmission of diseases by increasing information and behavioral skills as well as people's motivation (John et al., 2017; Robinson, 2017) and changing Behavior based on the application of intervention based on the self-care model in line with researches has been beneficial in increasing adherence to treatment in chronic diseases, and behavioral change is also known as a motivating factor in disease control.

### Conflict of Interest

According to the authors, this article has no financial sponsor or conflict of interest.

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