



# The effectiveness of compassion therapy on blood sugar, happiness and death anxiety in the elderly with type 2 diabetes

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### Abstract

**Aim:** The present study was conducted with the aim of determining the effectiveness of compassion therapy on blood sugar, happiness and death anxiety of the elderly with type 2 diabetes. **Method:** This was a semi-experimental research with a pre-test and post-test design with a control group and a follow-up period. Among the elderly women with diabetes in the 1st district of Tehran in the year 2021, 29 people were selected as available research samples according to the study entry criteria and randomly replaced in two experimental and control groups. The tools used in this research included blood tests, Oxford happiness questionnaire (2001) and Templer's death anxiety (1970). Data were analyzed by repeated-measures analysis of variance. **Results:** The results showed that there was a significant difference between the mean of the pre-test and the follow-up test of the experimental and control groups in terms of blood sugar, happiness and death anxiety. In other words, compassion therapy reduced blood sugar and death anxiety and increased happiness in the elderly with type 2 diabetes ( $p < 0.001$ ). **Conclusion:** According to the findings of the present study, compassion therapy can be suggested as an effective method to improve blood sugar, happiness and death anxiety of the elderly. **Keywords:** Type 2 diabetes, Happiness, Death anxiety, Aging, Compassion therapy.

## Introduction

Old age is one of the most important stages of human life, which according to the World Health Organization report, this stage of life begins at the age of 65 and causes many changes in a person (Liu et al., 2021). During this period, people are exposed to potential problems and threats such as increasing the incidence of chronic diseases, physical and mental disabilities (Ismaili Shad, 2020). The study of statistical indicators in Iran indicates the growth and acceleration of aging, so that studies show that the number of elderly population in the country will increase by 1420, and about 14% of the population will enter the old age period. (Saber & Nusratabadi, 2014). People in old age face a set of physical, mental disabilities and social exclusions that they have to deal with (Crane, 2016).

Diabetes is a chronic disease of the body's endocrine metabolism, which is associated with the body's inability to efficiently metabolize glucose and is diagnosed by an increase in serum glucose. Type 1 diabetes and type 2 diabetes are the most common types of diabetes that require long-term treatment. The ratio of type 1 diabetes to type 2 diabetes is about 5% to 95%. It is estimated that the number of people with diabetes in the world will increase from 382 million people in 2013 to 592 million people in 2035 (Lee et al., 2015). Several underlying factors are this disease, including inactive lifestyle, high-calorie foods, obesity and aging (Shaw, 2010). Also, environmental and genetic factors, insulin resistance and dysfunction of beta cells play a role in the development of diabetes (Tesfai & Selvarjah, 2012).

One of the consequences of old age and diabetes is a decrease in happiness (Lachesi et al., 2018). The research of Sharifi Awadi and Panah Ali (2011) showed that old age has caused a decrease in mood, lack of satisfaction with life and ultimately lack of happiness due to living conditions and especially living in nursing homes. Happiness is one of the most important positive emotions, and this emotion is considered one of the main human emotions, and it is one of the first emotions that appear during transformation (Ahmadi Forushani et al., 2013).

Most people who reach old age and disability experience many problems such as inactivity and lack of activity (Squizato et al., 2006), unfavorable social and economic status, physical diseases, loneliness and depression, and severe hopelessness. (Adam et al., 2014) that these factors have a significant effect on decreasing happiness and increasing death anxiety of the elderly with diabetes (Sadri Demirchi et al., 2018). Facing the stage of old age and passing a successful old age does not only include not having physical and debilitating diseases, but the person must be in an acceptable state in terms of mental health, having social activities and proper communication with others, and cognitive and movement abilities. (Hammer et al., 2014).

Therefore, the necessity of psychological interventions in these cases seems necessary. One of the most important and new interventions is the treatment based on compassion or compassion therapy, which has attracted the attention of modern therapists for heart patients.

Compassionate therapy is designed to reduce suffering, worry, pain and depression (Leaves & Utley, 2015). This treatment was first developed by Gilbert in 2005. In his treatment sessions, Gilbert used the structure of compassion therapy, which can be used as the main treatment and even as a complementary treatment, and finally proposed the theory of compassion-based therapy (Ashworth et al., 2011).

Therefore, this research was conducted with the aim of answering the following question.

1. Is compassion therapy effective on blood sugar, happiness, and death anxiety in the elderly with type 2 diabetes?

### **Method**

This was a semi-experimental research with a pre-test and post-test design with a control group and a follow-up period. Among the elderly women with diabetes in the 1st district of Tehran in the year 2021, 29 people were selected as available research samples according to the study entry criteria and randomly replaced in two experimental and control groups. The tools used in this research included blood tests, Oxford happiness questionnaire (2001) and Templer's death anxiety (1970). Data were analyzed by repeated-measures analysis of variance.

### **Results**

The average blood sugar and anxiety of the experimental group (compassion therapy) in the post-test and follow-up test phase decreased compared to the pre-test, and the average happiness of that group increased, and there is no noticeable difference between the post-test and the follow-up test; However, there was a slight difference in the scores of the three times of the witness group.

Before using analysis of variance with repeated measurements, its assumptions were examined. Thus, the size of Smirnov's z test for the elderly was not significant in any of the research variables and test stages. The non-significance of this test indicates that the data have a normal distribution. It was found that the size of the box test was not significant, which indicated the establishment of the assumption of homogeneity of the covariance matrix. The size of Levene's test was also not significant for any of the variables, which indicated the establishment of the assumption of homogeneity of the error variances matrix, and finally, the result of the Mauchly's test showed that it is not statistically significant, so the assumption of sphericity is also established.

Wilks's multivariate lambda test indicates the significance of the variance of the group and time interaction factor in all three variables ( $P < 0.01$ ). According to the effect size in blood sugar variables 0.74, happiness 0.84 and death anxiety 0.66, it is clear that the effect of compassion therapy intervention on reducing blood sugar and death anxiety and increasing happiness is positive and significant. In order to compare the results in the test stages (pre-test, post-test and follow-up test), pairwise comparison was used.

There is a statistically significant difference between the mean of pre-test and post-test, mean of pre-test and follow-up ( $P < 0.01$ ). So that the mean of the post-test and follow-up is statistically lower than the mean of the pre-test in the variable of blood sugar and death anxiety and higher in the variable of happiness. There is no statistically significant difference between the average scores of the post-test and the average scores of the follow-up test, which indicates the stability of the results affected by the therapeutic intervention over time. Therefore, compassion therapy has affected the improvement of blood sugar, happiness and death anxiety of the elderly with type 2 diet and this effect has remained stable over time.

## Conclusion

This research was conducted with the aim of determining the effectiveness of compassion therapy on blood sugar, happiness and death anxiety of the elderly with type 2 diabetes. The results showed that compassion therapy has a significant and stable effect on blood sugar levels, happiness and death anxiety of the elderly with diabetes and can reduce blood sugar and death anxiety and increase happiness.

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