The Effectiveness of Group Training of Mindfulness on Quality of Life in Type 2 Diabetic Patients

Malihe Raghebian[1], Mansoure Nasireian[2*], Mahmoud Kamali Zarch[3]

1. MA in Clinical Psychology, Department Humanities College of Psychology, Yazd Science and Research Branch, Islamic Azad University, Yazd, Iran.
2. Psychiatrist, Department of Psychiatry, Shahid Sadughi University of Medical Science, Yazd, Iran.
3. Assistant Professor, Department Humanities College of Psychology, Yazd Science and Research Branch, Payame noor University, Yazd, Iran.

[*]**Correspondence:**
Mansoure Nasireian, Psychiatrist, Department of Psychiatry, Shahid Sadughi University of Medical Science, Yazd, Iran.
Email: nasirian90@gmail.com
Tel: (98) 913 253 7633

Received: 25 May 2015

Accepted: 14 October 2015

Published in December 2015

Abstract

Objective: Mindfulness is a part of mind-body medicine to increase the quality of life in patients with chronic diseases like diabetes. Regarding the importance of quality of life in patients with diabetes, and the role of training on its improvement, this study was done to evaluate the effectiveness of group training of mindfulness on quality of life in type 2diabeticpatients.

Material and Method: This is a semi-experimental study, of Pretest -posttest type with Control group. Thirty diabetic patients, who were members of Yazd Diabetes Research Center, took part in this study during 2013-2014. They were selected randomly (15 were in experimental and 15 in control group). The experimental group had mindfulness training process, in 8 sessions of 45 minutes. Both groups filled the DQOL questionnaire before and after training. The data were analyzed by SPSS (version16).

Results: the mean of quality of life score in the experimental group was more than control group in post testing. The difference was statistically significant. In other words, change in scores is because of independent variable (group training of mindfulness).

Conclusion: It can be said that group training of mindfulness is effective on improving quality of life in patients with diabetes type 2.

Keywords: Mindfulness, Quality of life, Type 2 diabetes

Introduction

Chronic diseases are important in community health. These diseases effect on daily activities. Although medical remedies reduce the complications, but they cause problems in quality of life (1). Diabetes is defined as a chronic illness with problem in carbohydrates, protein, and fat metabolism. This disease is the main reason of amputation, blindness, chronic kidney diseases, and cardiovascular diseases (2).

According to the Iran Health Ministry, more than 4 million people in Iran are diabetic, and diabetes prevalence is tripled every 15 years. Diabetes is the ninth causes of death in Iran (3). This illness is controllable with controlling blood sugar level. The studies show that by controlling blood sugar, we can prevent diabetes (4). Today, long term blood sugar level in patients with diabetes is tested by Hemoglobin glycosylated, which is effective in blood sugar control (5).

Diabetes effect on body physical functions, mental and emotional conditions, individual, familial and social relations, sexual functions, and quality of life (6). Health studies have different dimensions, one of them is the health related quality of life (7). In 20th century, the main challenge was to be alive, but this century's challenge is better life. Quality of life is a personal aspect, including different concepts like body condition, social adhesion, mental condition, and health understanding (8).

In the past 20 years, interests toward testing and improving quality of life of patients with diabetes have increased dramatically, and improving daily life and quality of life of these patients have become a goal (9). Study of Sanchez et al. (2005) showed that quality of life in diabetes patients is low (10). Ghanbari (2001) also noted, diabetic patients experience many problems regarding quality of life and the personal-social and economic factors have meaningful effects on their quality of life (11). Masoudi Alaviet al, (2006) Masoudi Alaviet al, (2006) informed, undesirable quality of life in diabetic patients. This study showed education and support of diabetic patients were the major steps forward in quality improvement their life (12).

Low emotional levels, lead these patients to other undesirable results like decreasing quality of life and increasing death number (13). So, many psychological remedies along with medical remedies are done to control the illness and its side effects. Mindfulness is one of these remedies (14).

Mind-body medicine focuses on the cooperation of brain, mind, body, behavior, and powerful methods that effect directly on emotional, mental, social, and spiritual factors. Effectiveness of mindfulness in improving health of diabetic patients has attracted a lot of attentions (15).

Despite useful effects of mindfulness on chronic diseases like diabetes, the studies are rare in Iran, and according to what was said above, if mindfulness is formed in these patients, the disease will improve greatly and they will have a chance for a better life. So, this study is done to show the effectiveness of group training of mindfulness on quality of life of diabetic patients in Yazd during 2013-2014.

Materials and Materials

This is a semi-experimental study of Pretest - posttest with Control group. Thirty diabetic patients, who were members of Yazd's Diabetes research Center, were chosen. They were selected in experimental and control groups randomly (15 were in experimental and 15 in control group). The diabetes quality of life questionnaire (DQOL), that is designed to test diabetes people's quality of life was used. This questionnaire was designed by Jacobson in 1986, and contains 46 questions in 4 areas, of satisfaction from diabetes, diabetic effects, diabetic concerns, job and social concerns. Each question has 5 scores and the higher score shows the lower quality of life. Time of doing this questionnaire is 20 minutes. According to Midgoli et al. validity of this questionnaire by Cronbach's alpha is 92 percent, and its subscales were 66-88 percent and its justifiability is high using Symptom checklist -90 –R (SCI-90), Balance scale brad burn affect (ABC) and Psychosocial adjustment of illness scale(PASI)questionnaires. This questionnaire also has been checked by Masaele et al (2010) in Esfahan (16).

Experimental group were exposed to training programs including 8 weekly sessions of group training, each session was 45 minutes. Training material is as table 1. Training lessons were according to the Cognition Therapy Regarding Mindfulness book, previous studies, diabetic patients' problems, and cultural and social norms (17). Each session started with training, and went on talking about it and ended with homework. Information and assignments were given as pamphlets and CDs. Two group members filled quality of life questionnaire. Two weeks after finishing the course, patients were asked to fill the questionnaire again. Control group also filled the questionnaire before and after

the course, without any training. Collected data were analyzed by SPSS software ver. 16 using ANOCOVA statistic test and quality of life of two groups was compared using paired test statistics.

Timing and materials of training course are as follow (17).

Session	Content
Pre training session	Welcome- Questionnaire
First sessions	Automatic pilot
Second sessions	Dealing with barriers
Third sessions	Mindfulness of the breath (and the body in movement)
Fourth sessions	Staying present
Fifth sessions	Acceptance and allowing/letting be
Sixth sessions	Thoughts are not facts
Seventh sessions	How can I take care of myself?
Eighth sessions	Using what has been learned to deal with future moods
Post training session	Fill out this questionnaire

Results

The results of descriptive analyze of quality of life showed that there was a meaningful difference between the two groups' pretest scores (Table 1).

The mean scores of pre-test for experimental group was 78.93, but the score decreases to 64.33 in posttest. In the control group the pretest score was 79.27 and it was increased to 79.38 in posttest (the lower the score means the better the quality of life).

The results of ANCOVA is presented in table 2. There was a meaningful difference between the scores of two groups regarding quality of life, in posttest (f=53.08, P<0.01). In addition, pretest, posttest, and ANCOVA test showed that the quality of life of the experimental group had increased meaningfully.

Conclusion

Self-management is a need to control diabetes. Mindfulness is a self-management method, which improves the quality of life. Medical programs that make patients feel better, or strategies that improve patients' quality of life, may be acceptable for patients and improve their metabolism condition (18). If one of health care aims is quality of life improvement, it is necessary to determine how different teaching mindfulness affects the quality of life in diabetic patients (19). Our findings showed that group training of mindfulness improves quality of life. Life has different aspects like physical, psychological, social, and spiritual. So, mindfulness training is designed to affect all of these aspects. In this study, pretest and posttest mean scores of experimental and control groups regarding quality of life, had meaningful difference.

Our results are the same as Green et al. findings that training mindfulness is useful for diabetes control, and these trainings have had positive influence on their life of quality (20). Merkes showed cognitive-behavioral trainings especially mindfulness training have positive effects on diabetic patients' quality of life. Ghanbari's study in 2001 showed that diabetic patients quality of life can change to higher level by training. Training of diabetic patients causes happiness, having better relationships, and higher satisfaction. Sanchez et al. (2005) said: diabetic patients face various physical, mental, and social problems, and this kind of problems can reduce their quality of life. So,

Table1. Mean and standard deviation of quality of life in experimental and control groups

Group		Number	Pretest		Posttest	
			Mean	Standard deviation	Mean	Standard deviation
Quality of Life	**Test**	15	78/93	17/76	64/33	17/73
	Control	15	79/27	18/92	79/38	18/94

Table2. Results of analyzing mindfulness training ANCOVA on quality of life in two groups

Source changes		Mean square	Degrees of freedom	F-test	Significance level	Standard deviation	P-value
Quality of life	Pretest	8603/60	1	258/14	0/00	0/24	≤ 0/01
	Join this group	1608/83	1	53/08	0/00	0/66	≤ 0/01
	Error	30/17	27				

appropriate trainings should be considered for these patients like special cognitive-behavioral trainings.

Masoudi Alaviet al (2006) suggested training as an effective step in diabetic patients (12). Ridge et al. in their study during 3 or 4 years, showed mindfulness training can improve quality of life of diabetic patients, but its effectiveness decrease during long time (22).

According to our findings, the mindfulness training may increase the awareness of present moment, through skills like taking care of breathing and body, and concentrating on now and here. Regarding the effectiveness of this training and according to its benefits on quality of life, using this method is recommended.

Acknowledgment

We thank Yazd Diabetes research center chief, who let us to do the survey and sampling.

References

1- Hatmloei Sa'dabad M, Babapoor KH. Comparison of quality of life and coping mechanisms in diabetics and non-diabetics. Journal of martyr Yazd University of Medical Sciences. 2012;20(5):581-892(in Persian).
2- Mohammed Pourmorabe Y, Haririan HR, Moqaddasian S, Ebrahim EH. Qualityof life in diabetic patients attending the Diabetes Center, Tabriz University of Medical Sciences. Journal of Nursing and Midwifery, Tabriz University of Medical Sciences. 2008;4(1):26-37(in Persian).
3- Iranian Diabetes Society. Diabetes Statistics in Iran.2013 (in Persian). WWW.ir diabetes society.com.
4- Ohkuboy A, Kishikawakh F, Araki E. Miata IsamiS. Intensive insulin terapy prevents the progresstion microvascular complication patient with noninsulin dependent diabetes mellitus. Diabetes Res 1995;28:103-17.
5- Zarghami N, Eshtiyaghi R, Khosrobeygi A, Dayer D, Hallajzadeh J. Association between Insulin-like growth factor -1 AND Glycosylated hemoglobin In patients with type 1 diabetes. J Diabetes and Lipid Iran 2003;3(1):23-9.
6- James E, Graham DG, Stoebner M, Glenn V. Health Related Quality Of Life In Older Mexican Americans With Diabetes. Health and Quality Of Life Out Comes 2007;5(39):1-7.
7- Mond JM, Hay PJ, Rodgers B, Owen C, Beumont PJV. Assessing quality of life in eating disorder patients. Quality of Life Research 2005;14,171-8.
8- Von Mackensen S. Quality of life and sports activities in patients with haemophilia. Haemophilia 2007;13,38-43.
9- Monjamed Z, Ali Asgharpour M, Mehran A, peymany T. Quality of life in patients with diabetes. Journal of Nursing and Midwifery Tehran University of Medical Sciences (Life). 2006;12(1):55-66 (in Persian).
10- Sanchez- JM. Qulity of life in insulin treated diabetic coutpatients Diabetes. Care2005;27:1066-70.
11- Ghanbari A. Determine the factors affecting the quality of life in diabetic patients. Journal of Guilan University of Medical Sciences. 2001;4(3):82-8(in Persian).
12- Masoudi Alavi N, Ghofranipour F, Larijani B, Ahmdy F, Rajab A, Babai Gh. Quality of life in patients with diabetes mellitus referred to the Iranian Diabetes Society. Journal of Kermanshah University of Medical Sciences. 2006;8(2):19-25(in Persian).
13- Van Son J, Nyklíček I, Pop V, Pouwer F. Testing the effectiveness of a mindfulness-based intervention to reduce emotional distress in outpatients with diabetes (DiaMind): design of a randomized controlled trial. BMC Public Health 2011;11(1):131.
14- Hughes AE, Berg CA, Wiebe DJ. Emotional Processing and Self-Control in Adolescents with Type 1 Diabetes. J Pediatr Psychol. First published online 2012.
15- Zare H, Alipour A, PorsharIf H, Afkhami M, Araab Sheibani KH. Effects of psychosocial group intervention on measures of physical and mental well-being in patients with Type II diabetes. Dvfslnamh Journal of Social Cognition. 2012;1(2):40-50(in Persian).
16- Masaele N, Athare A, Maulvi H, Najafi M, Siavash M. Normalization and evaluate the psychometric properties of the questionnaire quality of life in patients with diabetes mellitus Mrbtla. Journal of Medical Sciences, Semnan, Iran. 2010;4(4):263-70(in Persian).
17- Crane R. Mindfulness-based cognitive therapy. Translation: Welcome accent applies, Khoshlahjesedgh, A. Printing. Publications Beast, 2011;81-145(in Persian).
18- Wu SY, Fryback DG, Sainfort F, Klein R, Tomar RH. Development and application of a model to estimate the impact of type 1 diabetes on health related quality of life. Diabetes Care 1998;21(5):725-31.

19- Krein SL, Klamerus ML. Michigan diabetes outreach network: A public health approach to strengthening diabetes care. Journal of Community Health. 2000;25(6):495-511.
20- Green SM, Bieling PJ. Expanding the Scope of Mindfulness-Based Cognitive Therapy: Evidence for Effectiveness in a Heterogeneous Psychiatric Sample. Cognitive and Behavioral Practice 2011.
21- Merkes, M. Mindfulness-based stress reduction for people with chronic diseases. Australian Journal of Primary Health. 2010;16(3):200-10.
22- Kaviany H, Hatami N, Shafiabadi A. Effects of mindfulness-based cognitive therapy on quality of life in depressed patients. New Journal of Cognitive Science. 2008;10(4):39-48 (in Persian).
23- Ridge K, Bartlett J, Cheah Y, Thomas S, Lawrence-Smith G, Winkley K, et al. Do the effects of psychology treatments on improving glycemic control in type 2 diabetes persist over time? A long-term follow up of a randomized controlled trial. Psychosomatic medicine. 2012;74(3):319-23.