Effect of self-management education package on specific quality of life among diabetic patients in Urmia Diabetes Centers

Mohammad Reza Zaker[1], Ali Sadeghi Moghadam[2], Shamsuddin Shams[1]*, Yaser Moradi[1]
[1]School of Nursing and Midwifery, Urmia University of Medical Sciences, Urmia, Iran
[2]School of Nursing and Midwifery, Dezful University of Medical Sciences, Dezful, Iran
*Corresponding Address: E-Mail: shamsadin1@yahoo.com

ABSTRACT

Background: Diabetes is one of the most common chronic diseases in the world that has had multiple serious complications and will be causing many health and socioeconomic problems for humanitarian community with the result that QOL of persons is affected. This study aimed to determine the impact of training in quality of life, diabetes self-care was conducted.

Method and Materials: The pre-experimental intervention study was performed on patients with diabetes were referred to the Diabetes Association Urmia 80 samples were randomly selected with regard to the inclusion and exclusion criteria and then randomly assigned to intervention and control groups. Data in this study was obtained from specific quality of life of diabetic patient's questionnaire and a demographic questionnaire before and after the intervention in both groups were used. The intervention group received 8 sessions of training in self-care (Power point, pamphlets and booklets) were used. Re-evaluation of 3 months after treatment and the results of t-test and chi-square test software spss16 were analyzed.

Findings: The average of the quality of life of dedicated individuals in the intervention group, Before the intervention was $(42/22\pm4/59)$ that after the intervention reached $(56 \pm 3/96)$ and this difference was statistically significant $(P=0/001)$.

Conclusion: This study showed that self-care education on diabetes-specific quality of life will increase self-care in diabetic patients.

KEY WORDS: Diabetes, Self-care, quality of life, Education

1. INTRODUCTION

Diabetes mellitus is a common disease that causes health and social-economic problems for human societies. In recent decades, this disease has become more widespread. Diabetes is a dangerous disease in both the developed and developing countries. This metabolic disease is one of the most common endocrine diseases, which affects approximately 6% of the world population (Wild, 2004; Zimmet, 2003). Diabetes is known as a silent epidemic and is considered as a major public health problem in America and other countries, even our country (Iran). According to the World Health Organization, there are approximately 150 million diabetic people in the world (Bener J Al-Suwaidi, 2004; Rasolabadi, 2015). Based on the previous studies in different cities of Iran, the prevalence of diabetes varies from 0.9 to 4.2%. In people over 30 years-old in Iran, the prevalence of diabetes is in the range 2.7-2% for urban areas and 8.3% for rural areas (Fayers PM Machin, 2000).

Diabetes can negatively impact on physical and mental health and individual-social performance of patients. Although, medical treatments can improve the symptoms, but it can cause a disorder in their life (1385). Life quality is one of the most important concepts in chronic diseases. Nowadays, in medical care, the control of chronic diseases is especially important. Complete treatment in the patients with chronic disease is impossible. While, death is considered as a distant event. In this situation, improving the life quality of patients is the main objective (Huberta, Henk JG Meyboom-de J Betty, 2007, Ghaffari, 2015). Diabetes mellitus with permanent changes in the life of patients (such as self-care, daily and continuous subcutaneous insulin infusion and control of blood sugar by the patients) can have negative effects on their life quality (Mortazavi M Hosseini, 2003, Rafat, 2015). Although, many studies on the life quality of diabetic patients have been conducted in Iran, but there are still many unknowns about diabetic patients and their life quality. It is necessary to implement various programs for identifying people at risk of reduced life quality and interventions to enhance their life quality (Mahmodi and Valiee, 2016).

In this regard, one of the issues that cause an increase in the life quality of these patients is the implementation of educational programs (Baghiani mogadam, 2006). Patient education is an important issue that its valuable and useful effects have been demonstrated in several previous studies. Despite the numerous benefits of patient education with regard to its modest cost, this important issue has been overlooked or neglected in many health care centers (Ataee, 2012). The results of Esmaeili, study showed that the patient education is not desirable in Iran, which the educational programs are not implemented or are held incomplete and irregular (Esmailie, 1997). Self-care in chronic diseases is based on the survey and control of the disease, implementation of treatment regimens, maintain a healthy lifestyle, and controlling the impact of the disease on daily functioning, emotions and social relationships (Mohammad Hassani, 2010; Jahangiri, 2016). Training the proper self-care behaviors could improve the ability of patients in performing daily activities and achieving patient's independence, which eventually leads to improve in the life quality of diabetic patients (Jaarsma, 2000; Rahimi, 2014).

Due to the many problems of diabetes disease such as chronic complications, disabilities plentiful, high costs, high prevalence, and large number of deaths in developed and developing countries, this paper aimed to study the effect of self-care education package on the life quality of diabetic patients for improving their life quality.

2. EXPERIMENTS

This is a quasi-experimental study. The sample size was 80 individuals by considering the data presented in our previous study, standard deviation of 3.8, possibility of 0.95 and test power of 80%. The samples were selected by sampling method and were randomly classified into two groups of control (n = 40) and intervention (n = 40). Then, participants were contacted via phone calls, and the interested people for participating in the study (n = 80) were invited to the Diabetes Association on a certain day. The inclusion and exclusion criteria of the study were examined again. Homogeneity of the groups in terms of demographic characteristics, underlying disease and used drugs were analyzed using chi-square test. Training of intervention group were carried out by the researchers during eight sessions (each session lasting 45 minutes) in classes of Urmia Diabetes Association.

Data collection was carried out using a questionnaire including 1) demographic questionnaire in 3 parts (a. demographic information b. general information c. current history of the disease), 2) type 2 of Specific Quality of Life Questionnaire of diabetic patients, consisting of 15 questions. These questions were five-choice questions. For each question, the lowest score was one and the maximum score was five, which the range of scores varied from 15 to 75. Reliability of the questionnaire has been studied by Nasihat Kon, (2011). After data collection, data analysis was performed using SPSS software (version 16). In addition to descriptive statistics and after ensuring normal distribution of variables, Kolmogorov-Smirnov test was used. Moreover, independent t-test was used to evaluate the life quality scores before and after intervention. Also, Paired sample t-test was used for analyzing between and within groups.

3. RESULTS

A total of 80 diabetic patients was participated in this study in the two groups of intervention (n=40) and control (n=40). In terms of sex distribution, in both intervention and control groups, 62.5% and 60% of participants were female, respectively. Chi-square test results showed that there is no a significant difference in sex, occupation, marital status, income level, location, underlying diseases and used drugs between both intervention and control groups (P>0.05).

Table.1. Comparing specific quality of life in diabetic patients before and after intervention between both groups

Specific quality of life	Intervention group		Control group		T-test results
	Mean	Standard deviation	Mean	Standard deviation	
before intervention	45.22	4.59	46.87	4.02	P=0.1
after intervention	56.72	3.96	49.27	3.85	P=0.001

In the present study, in accordance with independent t-test before intervention and pre-test, there was no significant difference in the mean score of life quality between both intervention and control groups of diabetic patients (P=0.1). But after education and providing self-care training package, based on independent t-test in the mean scores of life quality for each diabetic patient there was a significant difference between both studied groups (P=0.001) (Table 1).

Table 2 showed that the mean score of specific quality of life in the intervention group was 45.22±4.59 within pre-test. This value after the education was increased to 56.72±3.96. In the dependent t-test, the difference between the two scores showed a statistically significant difference between the scores obtained before and after intervention in this group (P=0.001). According to data presented in Table 3, the mean score of specific quality of life in the control group in pre-test was increased from 46.87±4.02 to 49.27±3.58, which the difference between the scores (2.4) by the dependent t-test indicated a significant difference in the scores of the group before and after intervention (P=0.001). In general, results (as presented in Tables 2 and 3) showed that the education of self-care and self-care education package can significantly increase the mean score of trained intervention group compared to the control group.

Table.2. Comparing specific quality of life in diabetic patients before and after intervention in the intervention group

Specific quality of life	Intervention group		Paired t-test result
	Mean	Standard deviation	P=0.001
before intervention	45.22	4.59	
after intervention	56.72	3.96	

Table.3. Comparing specific quality of life in diabetic patients before and after intervention in the control group

Specific quality of life	Intervention group		Paired t-test result
	Mean	Standard deviation	P=0.001
before intervention	46.78	4.02	
after intervention	49.27	3.85	

4. DISCUSSION AND CONCLUSION

The findings of this study showed that the majority of participants in the intervention and control groups were female. In the Vosoughi, study (2011) with aim of study the power of self-care in diabetic patients, 65.2% of participants were female (Vosoghi Karkazloo N Abootalebi Daryasari Gh FarahaniB Mohammadnezhad E SajjadiA, 2012). In a similar study conducted by Mahavarat (2009), on the life quality of diabetic patients under self-care education, 77.4% of the participants were female (Mahaweerawat U CW Pichainarong N Schelp FP, 2009). Hossieni, reported that the low activity and high prevalence of obesity in women are considered as risk factors for diabetes (Hosainy R Rasouli A Baradaran, 2009).

In the study of diabetic-specific quality of life, the results of independent t-test showed a significant difference in the scores between intervention and control groups, which this difference indicated the positive effect of self-care education. In a study conducted by Baghiean (2009), on the effect of self-care education on the life quality of diabetic patients, results showed that the education cause an increase in the life quality of the patients (Baghianimoghadam M Afkhami ardakani M, 2009). This result is consistent with the finding of our results. In Mahovarat, study (2009) the education also improved the life quality of patients (Mahaweerawat Chavepoojnkamjorn W Schelp F Pichainarong N 2009), which is also in line with our study. Taghdisi, study (2009) reported that the education was effective on the life quality of affected patients, but in statistically significant difference was not observed between the two groups after intervention (Taghdisi MH BM Solhi M Afkari, 2011). This difference in the mentioned study may be attributed to the differences in the education method.

In the present study, the mean scores of post-test compared to pre-test in the intervention group was significantly increased. This finding indicated the effectiveness of the implementation of training and educational package. In this regard, the results of Brous, showed that participation in training programs is related to having a higher scores of life quality in the diabetic patients (Beranth, 1999). Dunn, in Australia reported that the implementation of educational programs for diabetic patients increased their life quality (Dunn, 1990).

Due to the fact that the prevalence of diabetes in the world and Iran is increasing, so it is necessary to hold the training classes and provide educational pamphlets, CDs and manual for the diabetic patients and their families in the health care centers that diabetic patients refer to them. Therefore, they can prevent and reduce its complications and costs by learning required training in relation to their disease.

5. ACKNOWLEDGEMENT

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