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Research Article

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The Effect of Home-Based Self-Care Education on the Quality of Life of Diabetic Patients

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Abstract

Background and objective: Self-care in diabetic patients refers to individual's decisions and measures for adaptation to the disease and improvement of health status. These measures include behaviors such as compliance with a healthy diet, physical activity, self-monitoring of blood glucose (SMBG), drug use and foot care. The aim of this study was to compare the effect of home and hospital-based self-care education on quality of life in diabetic patients.

Methods: In this quasi-experimental study, 40 patients with type 2 diabetic were divided into two groups: Home-based and hospital-based education in Zabol, Iran in 2017. Subjects were selected using purposive sampling technique. After being collected, the data were analyzing during SPSS ver.23.

Findings: Mean ± SD of quality of life(QOL) in the hospital and home-based education groups was 40.3% ± 6.7% and 40.9 ± 7.3% before and 37.9 ± 4.6 and 51.7 ± 3.02 after self-care education, respectively. The results did not show a significant difference between the two groups the before self-care education (P=0.730). However, there was a significant difference between the two groups in terms of the mean QOL (P<0.001)

Conclusion: The findings of this study showed that home-based self-care education is an effective method for diabetic patients to improve the quality of life(QOL) of these patients. Therefore, it is recommended to use this educational approach to educate patients and promote their general health.

Keywords: Self-care; Home-based education; Patients with type 2 diabetes; Quality of life; Quasi-experimental research

Introduction

Diabetes is one of the most serious problems worldwide in such way that the World Health Organization (WHO) refers to it as a "Silent epidemic" [1]. According to WHO's reports, the number of people with diabetes will reach over 6 million in Iran by 2030 [4].Considering the increasing prevalence and costly nature of diabetes, effective interventions seem necessary to control the complications and QOL of diabetic patients [6]. The QOL refers to an individual's perception of his/her position in life considering the culture and value systems and its relation to his/her goals, expectations, standards and needs" [8]. There is a reciprocal relationship between the disease and QOL, and the primary goal of treating chronic diseases is to improve the QOL in these patients by reducing the complications of the disease. Therefore, QOL status evaluation is one of the important healthcare indicators in these patients worldwide [11]. One of the factors that promote QOL in diabetic patients is to increase their awareness through patient education and empowerment [13]. Although patient education and counseling are two of the main roles of the health team, including nurses, they are less dealt with [14]. Improving the knowledge and performance of diabetic patients means to improve the control of metabolic status and perform proper self-care behaviors. In other words, diabetic patients should receive necessary education on how to be aware of their disease so that they can take care of themselves, so, the patient education is the key to controlling diabetes [15].WHO has considered education as the foundation of diabetes treatment [16]. The main goals of patient education are to help patients maintain their autonomy in self-care and improve QOL, increase awareness, and ultimately give them more relaxation [18]. Self-care is critical to controlling the disease and refers to individual's decisions and measures taken to help patients adapt to the disease and improve their health status. These measures include behaviors such as observing a healthy diet, physical activity, SMBG, drug use, and foot care [19]. Self-care education is important for increasing the awareness and skills of diabetic patients in order to achieve blood sugar regulation and foot care as well as compliance with a healthy diet [20]. Considering the importance of patient education on QOL and improvement of patient's performance as well as the lack of a study to compare home and hospital-based self-care education on patients' QOL, the aim of the present study was to compare the effect of home and hospital-based self-care education on the QOL of patients with type 2 diabetes who referred to the Diabetes Clinic of Imam Khomeini Hospital and Amiralmomenin Hospital in Zabol, Iran.

Methods

This is a quasi-experimental study, the aim of which study was to compare the effect of home and hospital-based self-care education on the QOL of diabetic patients. The present study was performed on 40 patients with type 2 diabetes (20 individuals referred to Diabetes Clinic of Imam Khomeini Hospital-20 individuals referred to the internal department of Imam Ali Hospital in Zabol city) who were selected using purposive sampling technique in 2017. The inclusion criteria included suffering from diabetes diagnosed by a physician for at least 6 months, age range of 30-50 years, being literate, willingness to participate in the study, having awareness and consciousness. Exclusion criteria included unwillingness to participate in the study, being admitted to hospital during the intervention in the home-based education group, patient travelling or death.

To collect data, demographic questionnaire (age, gender, job, marital status, duration of diabetes) and Thomas et al.'s Diabetes Quality-of-Life Measure (DQOL) were used.

Thomas's DQOL consists of 15 questions scored using a 5-point Likert scale (1=completely dissatisfied, 2=Dissatisfied, 3=Average, 4=Satisfied and 5=completely satisfied). The score range of this scale is 15 to 75, with the scores 15-30, 30-45 and 45-75 indicating low, average and

high satisfaction rates, respectively. The content validity and internal consistency (reliability) of this questionnaire were evaluated and confirmed in the Nasihatkon's research (2012). In order to investigate internal consistency (reliability) of the questionnaire, Spearman's correlation coefficient between each question and the total score was used. Cronbach's alpha coefficient was used to test the reliability of the questionnaire, which was estimated to be 0.77. This figure indicates a good reliability of this questionnaire [23]. The educational materials were provided based on patients' self-care behaviors including familiarity with diabetes, diet, exercise, foot care, insulin therapy, and blood sugar control in diabetic patients. The educational content included educational videos, educational pictures, and the use of educational powerpoint presentations. After being prepared, the educational materials were given to several experts and some of the faculty members of the Faculty of Nursing and Midwifery of Zabol. The materials were later provided to five diabetic patients in order to examine their simplicity and comprehensibility. And after being confirmed, the materials were used for patients. The training was given to the home-based self-care group in four sessions with a 3-day interval between each session as follows: Session 1: Objectives were expressed while explaining patients about the aim of providing educational materials. The training items that were discussed at the first session include: the description of diabetes, the causes of the disease, and the factors preventing its progress. Session 2: While reviewing the issues discussed in the previous session, patients received training about foot care, diet, the importance of eye and kidney, and periodic cardiopulmonary checkups. Foot care training was implemented using pictures and materials in written and oral ways. Session 3: While reviewing the cares provided in the second session, patients were trained on oral medication, importance of blood glucose control and how to read and interpret it. Session 4: In this session, patients' learning was evaluated from previous training sessions by asking short and simple questions. Patients received training on preventing and understanding the complications of diabetes. Also, the communication path was defined and agreed upon with patients. In addition, the materials presented in each session were provided to patients in writing and the trainings were followed individually at home. Patient's problems and the issues raised by the researcher were followed up and explained at home via home phone and cell phone. The questionnaires were completed again one month after the study and Data analysis was carried out using descriptive statistics and T-test in SPSS ver.23 at a significant level of $p<0.05$.

Results

The results of the study showed that the mean ± SD of age of the patients in the hospital and home-based education group was 44.4 ± 3.79 and 44.2 ± 3.99 years, respectively. Independent t-test showed no significant difference between the two groups (0.872). Results showed that the two groups of home and hospital-based education groups were homogeneous in terms of demographic characteristics, which are summarized in Table 1. The results of Independent T-test showed no significant difference between the two groups before and after the self-care education (at home and in the hospital) (P=730). After the self-care education (within one month) and follow up of the patients in the two groups, there was a significant difference between the mean QOL score of patients in the home and hospital-based education group. That is, the QOL score decreased during the hospital-based self-care education (patients hospitalized in the internal ward) (0. 000) (P= (Table 2).

Variable			Home-based education group	Hospital -based education group	Test result (p-value)
Gender	Female		11(27.5)	12(30)	
	Male	9(22.5)	8(20)		
Levels of education		Elementary	0(0)	1(2.5)	
		Middle school	9(22.5)	7(17.5)	
		Diploma	10(25)	10 (25)	
		Associate Degree	1(2.5)	2 (5)	
Job status		Unemployed	12(30)	14 (35)	
		Self-employed	8(10)	6 (15)	
Duration of diabetes (year)			1.17 ± 3.7		

Table 1: Demographic characteristics of patients in both home and hospital-based self-care education groups.

Quality of life	Home-based self-care education group Mean ± SD	Hospital-based self-care education group Mean ± SD	Independent t-test (p-value)
Before self-care education group	3.7 ± 40.9	6.7 ± 40.3	0.730

After self-care education group	3.02 ± 51.7	4.6 ± 37.9	0.000

Table 2: Comparison of mean and standard deviation of QOL score in patients with type 2 diabetes before and after intervention in home and hospital-based self-care education groups.

Discussion

The present study investigated the effect of home and hospital-based self-care education on QOL in diabetic patients. The findings of the study showed that the mean QOL of both groups was low before education, which is consistent with the results of Glasgow et al [26] and Pour et al. [26]. They also report poor QOL in diabetic patients. In this study, the post-intervention QOL of patients in home-based self-care education group increased as compared to pre-intervention QOL. However, this was not the case for the hospital-based self-care education group, which may be due to the type of training implemented in these two places. The results of comparing the mean QOL in the two groups (implementation of the educational program) did not show a significant difference before intervention, while there was a significant difference between the QOL of diabetic patients in the two groups after the intervention. This means that home-based self-care education (educational interventions) improves the QOL of diabetic patients. These results are consistent with the findings of other studies on the QOL of diabetic patients [7,27]. Pour et al. [26] also found that self-care education was effective in improving the QOL in diabetics by improving their level of awareness. Farahani et al. [5] also showed that multi-media self-care education and the successful experiences of individuals have improved the QOL of diabetic patients. Also, Aghajani et al. [28] examined the effect of self-care education on the QOL of hypertensive patients using both lecture and presentation of educational package and found that both self-care education methods have improved the QOL. Nelson et al. [29] conducted a study to examine peer education on self-efficacy, quality of life, and metabolic control in diabetic patients. They concluded that intervention has improved the self-efficacy and QOL score of patients, as well as metabolic control of patients. Found . Danet et al. [30] also reported similar results on the effect of peer education on improving the QOL of diabetic patients. According to studies on the effect of self-care education implemented in different ways, it can be concluded that patients can increase their QOL in different dimensions, if they learn the information necessary need to know and control their disease. Therefore, it is essential to develop a self-care education program in different ways for chronic and prevalent diseases and it is necessary to take the necessary measures to implement educational programs, considering their successful results, in the prevention and treatment fields.

Conclusion

Considering the findings of this study, it can be concluded that home-based self-care education program can improve the QOL of diabetic patients in comparison with hospital-based self-care education program. Therefore, it is recommended that this program be implemented by health care providers to improve the QOL of these patients and reduce the cost of care.

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