

THE EFFECT OF SELF-CARE BEHAVIORS TRAINING IN MULTIMEDIA ON QUALITY OF LIFE AND SELF-EFFICACY IN TYPE 2 DIABETIC PATIENTS

Jasem Allahyari¹, Elham shahraki-moghaddam², Fateme Sargolzaei³, Hamid Reza Sheikhi², HadisMastalizadeh², Mohammad Sadegh Sargolzaei*⁴

1. *MSc Student of Nursing, Student Research Committee, School of Nursing and Midwifery, Zabol University of Medical Sciences, Zabol, Iran.*
2. *Instructor, MSc of Nursing, Faculty of Nursing and Midwifery, Zabol University of Medical Sciences, Zabol, Iran.*
3. *MSc Student of Nursing, Student Research Committee, School of Nursing and Midwifery, Hamadan University of Medical Sciences, Hamadan, Iran.*
4. *BSc Student of Nursing, Student Research Committee, Faculty of Nursing and Midwifery, Zabol University of Medical Sciences, Zabol, Iran.*

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ABSTRACT

Background and purpose: Nowadays, the development of media tools has a significant role in life and promotion of people's health. The present study aimed to determine the effect of training multimedia education self-care behaviors on quality of life and self-efficacy in patients with type 2 diabetes.

Materials and Methods: This is a clinical trial study. Which were selected on 60 diabetic patients referred to RaziSaravan Hospital and were randomly divided into two intervention and control groups. Demographic characteristics questionnaire, quality of life questionnaire for Thyroid diabetic patients and Self-care behaviors questionnaire for diabetic patients were used to collect data. The intervention group was trained in multimedia for three sessions and the duration of each session was 30-45 minutes. There was no intervention for the control group. Questionnaires were completed before intervention and one month after the intervention. Data analysis was done using spss23 software.

Results: The mean and standard deviation of quality of life and the level of self-efficacy before and after intervention were respectively 33.66 ± 60.90 and 33.46 ± 6.21 , 35.63 ± 8.11 and 34.03 ± 5.41 . There was no statistically significant difference ($p \geq 0.05$). Mean and standard deviation of quality of life after intervention in intervention and control groups were 41.8 ± 1.34 and 34.4 ± 7.34 , 42.93 ± 7.68 , and 34.8 ± 6.42 . There was a significant difference between the two groups ($p \leq 0.05$).

Conclusion: Based on the results of the research, the use of multimedia training method can be effective in promoting self-care behaviors in order to improve quality of life and self-efficacy.

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Introduction

Diabetes mellitus is one of the health problems in the world that is rising rapidly. The disease is the fifth cause of death in the Western countries and the fourth reason for referral to the doctor. The number of diabetic patients in the world by 2010 was 285 million, which will increase to 439 million by 2030 [1, 2]. According to the data provided by the Association of

Iranian Diabetes, by the end of 2006, more than 4 million people in Iran have diabetes and 15% of their population is added every year. According to the data provided by the Association of Iranian Diabetes, by the end of 2006, more than 4 million people in Iran have diabetes and 15% of their population is added every year. According to reports from the World Health Organization, the number of people with diabetes in Iran by the year 2030 is more than 6 million [3]. In the absence of proper management of the disease, complications such as cardiovascular disease, nephropathy, retinopathy, and these are accompanied by stressful processes such as blood glucose control, insulin therapy and life expectancy reduction as a result of complications; The lives of these patients are followed [3, 4]). While the primary goal of early diagnosis and therapeutic interventions for diabetics is to improve the quality of life of these patients [5]. Also, quality of life is an important factor for calmness and is necessary for emotional and rational activities [6]. The results of various studies indicate that the quality of life of diabetic patients is low, so that the results of Tavakoli and colleagues indicate that the quality of life of diabetics is undesirable compared with non-malignant subjects. The quality of life of patients in Ebrahimi et al. Study was reported at moderate level [7, 8].

Self-efficacy in the short and long term is a predictor of quality of life [9]. Self-efficacy refers to the ability of individuals to conduct health behaviors [10]. Self-efficacy leads to adherence to drug use, dieting to prevent hypoglycemia, and exercise [11]. To achieve higher levels of self-efficacy, adherence to self-care behaviors is essential so that individuals with higher levels of self-efficacy are better at self-care [12]. Improving self-care behaviors improves the quality of life and self-efficacy in diabetic patients [10]. Self-care promotion methods utilize incident methods in education such as multimedia. The multimedia teaching method combines text, audio, graphics and image and facilitates and increases the interest of the learner to learn [13]. Computer-based training programs are effective in reducing workload for service providers or limiting the time for training and counseling [6]. Other benefits of multimedia programs during training also receive counseling for behavior change and also apply to people with a low level of literacy [14]. Considering the above issues and the importance of using modern technologies in education and study, the purpose of this study was to determine the effect of self-care education self-care training on multimedia on quality of life and self-efficacy of type 2 diabetic patients in Saravan city.

Methodology

The present study is a clinical trial study aimed at determining the effect of self-care education in multimedia on quality of life and self-efficacy in type 2 diabetic patients. In this study, 60 patients referred to the diabetes clinic of Saravan city were selected and randomly divided into two groups of test and control. The criteria for entering the study were: Diagnosis of diabetes by an internist, at least two years from diabetes, attending multimedia education classes, computer access, reading ability, ability to perform self-care behaviors. Exit criteria included: lack of willingness to continue research, non-attendance in classrooms, hospitalization.

Demographic information questionnaires (age, sex, marriage, educational level, economic status, occupation, duration of diabetes), and life quality questionnaire of Thomson diabetic patients and self-efficacy questionnaire for diabetic patients were used to collect data.

Thomas's Quality of Life Questionnaire has 15 questions with a 5-point Likert scale (1 = completely dissatisfied, 2 = dissatisfied, 3 = average, 4 = satisfied and 5 = fully satisfied). The lowest score based on the questionnaire is 15 and the highest score is 75, and the score of the questionnaire is low (30- 15) and moderate (30-45) and high (75-45). The content validity and validity of the internal consistency of this questionnaire were evaluated and confirmed in this research (2012). In order to investigate the internal consistency of the questionnaire, Spearman's correlation coefficient between each question and the total score was used. Also, for assessing the reliability of the questionnaire, the Cronbach's alpha coefficient was used and the coefficient was 0.77. This figure indicates good reliability of the questionnaire [15].

Self-Efficacy for Diabetes is a standard questionnaire designed by Stanford Institute. It has 8 questions and its score is based on the Likert scale of 10 choices. Individuals have confidence in themselves to do the following in terms of Likert 10 options (I'm not sure at all) to 10 (I'm pretty sure). The minimum and maximum score obtained between 8 and 80 is the reliability of the questionnaire in various studies reported between 0.71 and 0.85 [16].

Patients' educational materials based on their self-care behaviors include: familiarity with diabetes, diet, diabetes, exercise and exercise in diabetic patients, foot care, insulin therapy, and blood glucose control in diabetic patients. Educational content for patients included educational videos, educational pictures, and the use of educational and animated PowerPoint presentations. After providing educational materials for controlling the content, several faculty members and some of the faculty members of the Faculty of Nursing and Midwifery of Zabol were placed. In order to examine the simplicity and understanding of the materials, five diabetic patients were placed and, after confirmation, the contents for patients Was used.

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first session, quality of life questionnaires and self-efficacy of diabetic patients were completed. At the first session, educational materials about diabetes, diet and activity were used for patients. The meeting also answered questions from patients about diabetes.

Second session:

The content of the first session was reviewed during this session. The contents of this session included video tutorials on insulin therapy, foot care and its importance, and blood glucose control through the use of educational videos for insulin therapy and how to control blood glucose control. Pictures and animations were used to take care of the legs.

Third session:

In this session, we reviewed two previous sessions and answered the patients' questions and the ambiguities created for them. And the materials were delivered to a patient on a CD. They were advised to contact the researcher's telephone number if they had any questions. In order to do the teaching materials, the patients were contacted on a weekly basis and self-care behaviors were completed. At the end of one month after the completion of the study, the questionnaires were completed again and the data were analyzed by the SPSS23 software and the test Descriptive statistics, Chi-square and T-test were used at a significant level of $p < 0.05$.

Results

The demographic data of patients showed that 51.7% of the participants were female and 48.3% were male. The mean age of the participants in the intervention group was 48.96 ± 5.04 and the mean age of the participants in the control group was 48.26 ± 5.15 .

Independent statistical test showed that the mean scores of the quality of life of the patients before intervention in the intervention group were 33.60 ± 6.09 and the mean of life quality score of the control group was 33.46 ± 6.21 , which was not statistically significant ($p = 0.93$). On the other hand, the mean of quality of life scores in the intervention group was 41.8 ± 1.34 and in the control group was 34.4 ± 7.34 , and the difference was statistically significant ($p = 0.01$) (Table 2). In Table 3, the mean of self-efficacy scores before and after intervention was in two groups of intervention and control are presented.

Table 1. Demographic characteristics of patients

| The result of the chi-square test | Control group | Intervention group | Variable | |
|-----------------------------------|------------------|--------------------|----------------------------------|------------------------|
| | Number (percent) | Number (percent) | | |
| **0/59 | 48/26 ± 5/15 | 48/96± 5/04 | | Age |
| 0/79 | (53/3)16 | (50)15 | Female | Sex |
| | (14)46/7 | (50)15 | Male | |
| 0/79 | (43/3)13 | (40)12 | Single | Marital status |
| | (56/7)17 | (60)18 | Married | |
| 0/27 | (40)12 | (26/7)8 | illiterate | education |
| | (30)9 | (50)15 | Elementary | |
| | (30)9 | (23/3)7 | Under diploma and higher | |
| 0/82 | (26)6 | (26/7)8 | Weak | The economic situation |
| | (53/3)16 | (50)15 | medium | |
| | (26/7)8 | (23/3)7 | Good | |
| 0/84 | (43/3)13 | (46/7)14 | Unemployed | |
| | (26/7)8 | (30)9 | Self-employed | |
| | (30)9 | (23/3)7 | Employee | |
| **0/92 | 3/4±1/52 | 3/43±1/07 | Duration of infection (per year) | |

**T Independent test

Table 2. Comparison of mean score of life quality before and after intervention in two groups of intervention and control

| T Independent test | Control group | Intervention group | | Variable |
|--------------------|---------------|--------------------|---------------------|-----------------|
| 0/93 | 33/43±6/21 | 33/60±6/09 | Before intervention | Quality of Life |
| 0/01 | 34/4 ±7/34 | 41/8±1/43 | After intervention | |

Table 3. Comparison of the mean of self-efficacy score before and after intervention in two groups of intervention and control

| T Independent test | Control group | Intervention group | Variable | |
|--------------------|---------------|--------------------|---------------------|---------------|
| 0/37 | 34/03 ± 5/41 | 35/63 ±8/11 | Before intervention | Self-efficacy |
| 0/001 | 34/8 ± 6/42 | 42/93± 7/68 | After intervention | |

Discussion and Conclusion

The results of demographic data analysis were not statistically significant in the two groups and were homogeneous in this regard. Also, the results of this study showed that there was a significant difference between mean scores of quality of life and mean scores of self-efficacy in diabetic patients before and after the intervention in the experimental group. This shows the effect of multimedia education on quality of life and self-efficacy of diabetic patients. The results of this study are consistent with the study by Abu Musaudi et al., Who study multimedia education on quality of life in diabetic patients [6] Also, in the study of Glasgow et al. Who examined computer-based intervention on self-care behaviors in patients, the results after intervention showed a significant difference between life quality scores, depression and glycosylated hemoglobin and lipid indices [17]. The results of Namratha et al., Which investigated the multimedia education on the level of education and knowledge of diabetic patients, showed that the level of literacy of patients after intervention was increased, and the results showed that using multimedia method to increase the knowledge and literacy of diabetic patients with low level of literacy Also, after multimedia education, a significant difference was found between those who had a low level of education after the intervention and the results of the present study, because the increase in the level of illiteracy leads to greater adherence to self-care behaviors and consequently to reduce complications From the disease and followed by the quality of the woman Video patients increased [13].

The results of Khan et al. studying the multimedia program on diabetic patients in the waiting room showed that the results showed an increase in compliance with the chemotherapy drugs, but did not affect the self-efficacy and most of the self-care cases on diabetic patients, which did not match the results of the present study. The reasons for the discrepancy between this study and the present study are the duration of the research, the number of research sessions and the location of the research that was waiting for the patients [14]The results of Huang et al study that examined multimedia education on diabetic patients. The results after the study showed a significant difference between the level of knowledge, skill and self-efficacy of patients for insulin therapy. This study was conducted to adhere to insulin therapy Progression of the disease and reduce the complications and consequently increase the quality of life [18] In fact, the use of new teaching methods in relation to the old methods has a greater impact on the knowledge, knowledge and skills of learners and providers of health services [19]. Therefore, it is recommended that patients referred to hospitals be able to have self-care programs in multimedia classes, which, in addition to increasing the quality of life of patients, reduces the number of hospital admissions and consequently reduces costs in the health sector.

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