

## The Influence of Multimedia Training on Some Life Aspects of Diabetic Patients with an Epidemiologic Approach: A Systematic Review Study

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### Abstract

**Introduction:** Diabetes, a chronic and dangerous disease, has become widespread in the late 20<sup>th</sup> century, and there is no sign of stopping it at the moment. A systematic review study aimed at the influence of multimedia training on some life aspects of diabetic patients with an epidemiologic approach.

**Materials and Methods:** In this study, in order to achieve the goal of the study and to improve the accuracy of its study and its comprehension, this integrated overview study was conducted based on the Broome method. Broome's method is based on three stages of the search of texts, data evaluation and data analysis, so that in the search phase, the texts of post-retrospective studies are examined in terms of the criteria for entering the study in four stages and after obtaining entry conditions The content of the study is evaluated and the data is analyzed at the end.

**Results:** In this study, we reviewed ten articles that focused on the impact of multimedia education on some aspects of life in diabetic patients. In one of these studies, there was no statistically significant difference between the self-concept of the two groups before intervention. There was a statistically significant difference between the Piers-Harris self-concept test scores in the control and post-test groups (3 sessions of 4-hour training with compact disc).

**Conclusion:** According to studies, the results of these studies confirmed the positive impact of educational programs and self-care on quality of life in patients. Therefore, designing and implementing self-care educational programs based on the educational needs of patients with long follow-up is recommended.

**Keywords:** *Self-care behaviors; Epidemiologic approach; Diabetic patients; Multimedia education*

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## **Introduction**

Diabetes is a chronic, metabolic and genetically heterogeneous disease characterized by increased levels of glucose in the blood. Inappropriate combination (low physical activity and unhealthy foods) has increased uncontrolled diabetes outbreaks in the world. In 2014, the global prevalence of diabetes among adults older than 18 years of age was estimated at 9% [1-9]. The global prevalence of diabetes has increased significantly over the past two decades: from about 30 million in 1985 to 177 million in 2000, and according to research conducted in 2030, more than 360 million cases are reported [10-19].

Diabetes has become a major public health problem in the world, especially in Asia, due to an increase in the number of people infected with the disease. And it is also a major cause of death in the industrialized and developing world. Today, diabetes is one of the most important health and socio-economic problems in the world [20-38].

Among diabetic patients, depression is one of the most common psychiatric disorders. This mental illness is caused by various events and is one of the most common and fruitless problems for young people and adolescents. Depression and occupational stress may cause disorders in the mental and physical health of individuals and high occupational stress known as a known psychological factor in the development of cardiovascular disease [39-42].

Diabetes is also one of the most common endocrine complications in thalassemic patients. Thalassemia is a genetic condition in which red blood cells in the patient's blood do not lose their original form and cannot carry oxygen, which  $\beta$ -thalassemia is a group of hereditary blood disorders that results from the reduction or synthesis of beta-hemoglobin chain [43-50].

A systematic review study aimed at the influence of multimedia training on some life aspects of diabetic patients with an epidemiologic approach.

## **Materials and Methods**

In this study, in order to achieve the goal of the study and to improve the accuracy of its study and its comprehension, this integrated overview study was conducted based on the Broome method. Broome's method is based on three stages of the search of texts, data evaluation and data analysis, so that in the search phase, the texts of post-retrospective studies are examined in terms of the criteria for entering the study in four stages and after obtaining entry conditions the content of the study is evaluated and the data is analyzed at the end.

In this systematic review of the criteria for entry of articles, including articles published in Persian and in English, access to their full text was possible, published over the past 23 years, and studies on the impact of multimedia education on some aspects of life Patients with diabetes. Exit criteria include unnamed, unannounced, and non-scientific studies as well as articles that lacked the full text of the article.

This study uses the articles published in the last 23 years on the impact of multimedia education on some aspects of life in diabetic patients. It was conducted in Persian and English by searching articles in search engines, authoritative scientific sites and databases SID, Google Scholar, Embase, ResearchGate, Scencedirect, PubMed, and Springer. In the first stage 40 articles were found. Of these, 10 related articles that have been published in the last 25 years have been reviewed.

To achieve relevant studies, a wide range of keywords including Self-care behaviors, epidemiologic approach, diabetic patients, multimedia education was used as a one-to-one search, combined with the method "And" and "OR".

## **Results**

Diabetes, a chronic and dangerous disease, has become widespread in the late 20<sup>th</sup> century, and there is no sign of stopping it at the moment. A systematic review study aimed at the influence of multimedia training on some life aspects of diabetic patients with an epidemiologic approach

The results of one study showed that the mean self-care rate of the patients before intervention (3 months of self-care e-learning) in the experimental group was 24.98% and in the control group was 21.12%, while after the intervention, the control group was 28.82% and in the control group it was 20.02%. According to this study, there was a significant difference between the mean self-care scores before and after 3 months of training [51].

In another study, the results showed that there was no significant difference in lifestyle dimensions and overall score between intervention and control groups but after intervention, there was a significant difference between the two groups in terms of prosperity, accountability and life style in general [52].

In another study, there was no statistically significant difference between the self-concept of the two groups before intervention. There was a statistically significant difference between the Piers-Harris self-concept test scores in the control and post-test groups (3 sessions of 4-hour training with compact disc) [53].

In another study, blood glucose levels were lower in the education group than in the on-line tutoring group via SMS. Therefore, the effect of multimedia education through SMS is more effective in controlling the blood glucose levels of pre-diabetic pregnant women [54].

In one study, the control and intervention groups were homogeneous in terms of demographic information. In the intervention group, after 12 weeks of training, insulin injections and follow-up telephones, controlled and even reduced the blood glucose in the intervention group, and self-care and independence of these patients were strengthened and consequently it improved their quality of life [55].

In another study, the impact of mobile-based education has had a dramatic effect on self-care in patients. Therefore, the use of mobile-based training programs is recommended because of easy access, lack of time and space constraints [56].

In another study, SMS-based education in the telegram environment compared with the face-to-face model improves self-care and reduces the mean glycosylated hemoglobin levels in diabetic patients [57].

Other study results showed a positive and direct self-care effect on patients' quality of life [58].

Other study results showed that the quality of life of type II diabetic patients in the multimedia training program and successful person experiences increased compared to the control group [59].

Other study results showed that 6 months of standardized training through SMS could provide effective communication with patients with diabetes and increase their awareness, thus reducing the mean values of glycosylated hemoglobin and preventing the complications of the disease [60].

## **Discussion**

Diabetes is a chronic, metabolic and genetically heterogeneous disease characterized by increased levels of glucose in the blood. Inappropriate combination (low physical activity and unhealthy foods) has increased uncontrolled diabetes outbreaks in the world. In 2014, the global prevalence of diabetes among adults older than 18 years of age was estimated at 9% [1-9]. A systematic review study aimed at the influence of multimedia training on some life aspects of diabetic patients with an epidemiologic approach.

According to study [51], according to this study, there was a significant difference between the mean of self-care scores before and after 3 months of training. It can be concluded that e-learning on self-care of diabetics has a positive effect on disease control, so that the average self-care score of individuals improves.

Also, according to study [52], which showed that there was no significant difference in lifestyle dimensions and total score between intervention and control groups, but after intervention between the two groups, in terms of prosperity, accountability and overall style Life is meaningful. It can be said that lifestyle modification through e-learning improves self-management of patients with diabetes.

Also, in study [53], e-CD education can help in self-care education and subsequently enhance the self-concept of diabetes patients, especially adolescents.

According to study [54], it can be said that both methods of training via SMS and face-to-face education have the same effect and can reduce the blood sugar of pre-diabetic pregnant women.

According to study [57], it can be said that multimedia textual education in the telegram environment, in comparison with the in-person training, improves self-care and reduces the mean glycosylated hemoglobin in diabetic patients, and from this educational platform it can be used to facilitate self-care education in patients.

## **Conclusion**

According to studies, the results of these studies confirmed the positive impact of educational programs and self-care on quality of life in patients. Therefore, designing and implementing self-care educational programs based on the educational needs of patients with long follow-up is recommended. In studies, the intervention group, after 12 weeks of training, insulin injections and follow-up telephones, controlled and even reduced the blood glucose in the intervention group, and self-care and independence of these patients were strengthened and consequently it improved their quality of life, and therefore, more studies are needed in this field.

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## **Conflict of Interest**

There are no conflicts and interests in this article.

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