

# *A systematic Review Study on the Results of Empowerment-Based Interventions in Diabetic Patients*

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## ABSTRACT

**Introduction:** Diabetes mellitus is one of the most prevalent diseases caused by metabolic disorders and an important global challenge. Empowerment is a collaborative approach to diabetes care and patient education. In this study, our intention is to systematically review the effects of empowerment interventions in diabetic patients, in order to understand the impact of empowerment on diabetic patients, this study was conducted with the aim of doing this.

**Materials and Methods:** In this systematic review, we used the articles published in the last 30 years regarding the results of empowerment interventions in patients with diabetes. It was conducted in English and Persian by searching articles in search engines, scholarly sites and databases Magiran, Google Scholar, Embase, ResearchGate, Scencedirect, PubMed, Springer. In the first stage 40 articles were found. Of these, 15 related articles that have been published in the last 30 years have been reviewed.

**Results:** In this study, 15 papers were reviewed the empowerment approach of diabetic patients increases the level of knowledge, Increasing self-efficacy and improving the quality of life of adolescents, Making positive changes in the overall scale of attitude towards the disease and the patient's independent independence scale, Improve self-esteem scores and self-care and reducing the amount of hemoglobin A1C, Improve overall self-care behaviors, Reducing Glycosylated Hemoglobin and Improving Quality of Life, Blood glucose control (decrease in HbA1c), and so on.

**Conclusion:** The review of this review confirms the importance of empowerment-based interventions on increased control and self-care in diabetes patients in diabetic patients. Not paying attention to all dimensions of empowerment, not paying attention to the impact of demographic variables on empowerment, failure to follow up programs Lack of training by specialist staff and so on Can be seen by reviewing the results of the studies. Therefore, considering the broad concept of empowerment and as an effective approach to protecting patients with diabetes, its necessary these restrictions will be considered in future research.

**Keywords:** Empowerment interventions, Diabetic patients, Empowerment approach, Empowerment Program, Diabetes

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## INTRODUCTION:

Diabetes mellitus is one of the most prevalent diseases caused by metabolic disorders, a major global challenge. This disease is a chronic disease that results in impairment in the production and function of insulin in the body (1,6). Inappropriate combination (low physical activity and unhealthy foods) has increased the prevalence of diabetes. This disease with multiple complications is not reversible in many cases (7-12).

It is estimated that about 2 percent of the general population of Iran and 7.3 percent of people over 30 have diabetes. Compliance with a program and diet in diabetic patients is one of the pillars of individual diabetes management. Lifestyle behaviors, including nutritional behaviors, play an important role in preventing and managing diabetes. However, compliance with a diabetic diet is one of the most important challenges in controlling diabetes (13-15).

The overall complications of diabetes cause a lot of illnesses. Most studies have shown that patients with diabetes who are less self-healing have more complications (16,17). Depression is one of the most common and debilitating problems in adolescence and among diabetic patients is one of the most common psychiatric disorders (18, 19). Depression and occupational stress daily can cause some disorders in people's mental and physical health. Job stress can be considered as a combination of stressful factors and job-related situations most people agree on stressfulness (20-23). High occupational stress is known as a known psychosocial factor in cardiovascular disease (24). Diabetes is one of the most common endocrine complications in people with thalassemia (25). Thalassemia is the most common hereditary anemia in Iran. Thalassemia is a hereditary anemia. The treatment of these patients is continuous blood transfusion. Blood transfusion has complications some of them are related to immunologic complications and some Non-immunological complications such as increased iron loading and the transmission of blood-borne infections including hepatitis B, C and HIV. (26,27).

In general, diabetes can cause many diseases. Scientific evidence suggests that only a small fraction of chronic diseases, such as diabetes, are treated by specialist staff, while most diseases are managed by the

individual and his family (28,29). Traditional education seems adequate to meet the needs of patients, however, by recognizing the impact of psychosocial issues and the environment on patients' behavior, educational techniques were used to change patients' behavior. And the training approach to diabetic patients has changed as well as education based on the theory and research on diabetes and the focus of the capacity building approach to adapt treatment to self-efficacy and empowerment was changed. Empowerment is a collaborative approach to diabetes care and patient education. Which was introduced at the beginning of 1990 by Anderson and his colleagues at the University of Michigan Diabetes and Diabetes Research Center (29,30).

In this study, our intention is to systematically review the effects of empowerment interventions in diabetic patients, in order to understand the impact of empowerment on diabetic patients, this study was conducted with the aim of doing this.

## MATERIALS AND METHODS:

In this systematic review, we used the articles published in the last 30 years regarding the results of empowerment interventions in patients with diabetes. It was conducted in English and Persian by searching articles in search engines, scholarly sites and databases Magiran, Google Scholar, Embase, Researchgate, Sciondirect, PubMed, Springer. In the first stage 40 articles were found. Of these, 15 related articles that have been published in the last 30 years have been reviewed.

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. The method is done in the form of three steps in the search of texts, data evaluation and data analysis, So, in the search phase, post-retention studies texts are examined in four stages in terms of inclusion criteria. After obtaining the conditions for entry into the study, the content of the study is evaluated and at the end the analysis of the data was done.

The criteria for entry of articles include studies published in Persian and in English, access to their full text was possible, studies conducted on people with diabetes they were published in the last 30 years and

interventional studies based on the empowerment approach of patients with diabetes outcome criteria included case studies, descriptive and qualitative studies that did not involve educational intervention regarding the empowerment approach in patients with diabetes, unnamed, unannounced, and non-scientific studies as well as articles that lacked the full text of the article were deleted.

To achieve relevant studies, a wide range of keywords including Empowerment interventions, Diabetic patients, Empowerment approach, Empowerment Program, and diabetes was used as a one-to-one search, combined with the method "And" and "OR".

### RESULTS:

The empowerment process in diabetes is achievable through support and training and this action is through preparation, information, multimedia resources, use the right technology and creating skills in diabetes self-management plans is practicable (31). Empowerment is a collaborative approach to diabetes care and patient education that It was introduced by Anderson and his colleagues at the University of Michigan Diabetes and Diabetes Research Center (32,33).

In the empowerment approach, the need for adaptation to the needs of patients and the reflection of their experiences in life with diabetes, with the aim of identifying and enhancing the strengths and making informed choices, it is necessary and specified that Increased awareness about diabetes alone to get started. Maintaining self-management behaviors and long-term control of diabetes is not enough (34).

The results of this study were based on the results of empowerment interventions in people with diabetes that the results of these interventions reduced the mean glycosylated hemoglobin, Improving general self-care behaviors, and so on. For example, in studies (35-40), these interventions raise the level of knowledge, Increasing self-efficacy and improving the quality of life of adolescents, making positive changes in the overall scale of attitude towards the disease and the patient's independent independence scale, Improve self-efficacy scores and taking care of yourself and reducing the amount of hemoglobin A1C, Improve overall self-care behaviors, decrease in mean glycosylated hemoglobin and Improving the quality of

life and controlling blood glucose (decreased in HbA1c).

Also, these interventions in other studies enhance the psychosocial self-efficacy of diabetic patients in the post-psychological aspect, promote self-efficacy and reduce HbA1c increasing the mean score of knowledge, self-efficacy and self-esteem and lowering HbA1c levels in adolescents, promoting knowledge and confidence in diabetes, increasing the mean score of knowledge and decreasing HbA1c levels. Increasing control over disease and promoting self-care and knowledge, Improvements in the clinical results of HbA1c and LDL and blood glucose lowering, decline in clinical trials (HbA1c and weight and BMI) and improving physical activity, diet and stress and emotion Control, promoting knowledge and understanding about diabetes and reduce cholesterol, weight, blood glucose and BMI, and was improved in quality of life and self-care behaviors (32), (41-49).

### DISCUSSION:

Diabetes mellitus is one of the most prevalent diseases caused by metabolic disorders, a major global challenge. This disease is a chronic disease that results in impairment in the production and function of insulin in the body (1.6). Traditional education seems adequate to meet the needs of patients, however, by recognizing the impact of psychosocial issues and the environment on patients' behavior, educational techniques were used to change patients' behavior. And the training approach to diabetic patients has changed as well as education based on the theory and research on diabetes and the focus of the capacity building approach to adapt treatment to self-efficacy and empowerment was changed. Empowerment is a collaborative approach to diabetes care and patient education. Which was introduced at the beginning of 1990 by Anderson and his colleagues at the University of Michigan Diabetes and Diabetes Research Center (29,30).

This study examined 15 research papers, we realized that these studies confirm the importance of empowerment-based interventions to increase control of disease and self-care to promote health in people with diabetes.

According to the results of study (35), there was no significant difference between glycosylated

hemoglobin and intervention group before and after intervention. And the results showed a significant difference in the level of glycosylated hemoglobin between intervention and control groups after intervention. Also, the mean glycosylated hemoglobin in the intervention group decreased after the implementation of the empowerment plan. It should be said that the implementation of the empowerment program has improved the effectiveness of patients in controlling blood sugar and has been effective in reducing hemoglobin glycosylated levels in type II diabetic patients.

According to the results of the study (36), we can say that Self-care behaviors in total and some subscales such as nutrition and physical activity were significant in intervention group. Self-monitoring, adherence to treatment and foot inspection were significant in the intervention group, but there was no significant relationship between the two groups. Therefore, it can be said that an empowerment training program is needed to improve and maintain some self-care subscales.

According to the results of the study (37), it can be said that the intervention has an effective empowerment model on the quality of life of diabetic adolescents. And is suggested in this study this model will be implemented in other age groups of society and more widely.

In all studied studies, more empowerment on controlling clinical outcomes and promoting self-care behaviors and self-efficacy in diabetic patients. And except for a study that addresses family-centered empowerment and in two studies that used peer support strategies, in other studies, social empowerment was not addressed. While individual empowerment refers to the ability of a person to make decisions and control his or her personal life in social empowerment, people are involved in maximizing the impact and control of determinants of health and quality of life in society (50). The empowerment process is environmentally-social and a social process that is acquired with the participation of others (51), but in most studies, it has not paid much attention to its social dimension.

## CONCLUSION:

The review of this review confirms the importance of empowerment-based interventions on increased control and self-care in diabetes patients in diabetic patients. Not paying attention to all dimensions of empowerment, not paying attention to the impact of demographic variables on empowerment, failure to follow up programs, the lack of a specific theoretical framework of empowerment in some studies, Non-use of appropriate metrics and the lack of training by specialist people can be seen by reviewing the results of studies. Therefore, considering the broad concept of empowerment and as an effective approach to protecting patients with diabetes, these limitations need to be considered in future research.

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