



A systematic review on the impact of empowerment in improving self-care behaviors and some other factors in diabetic patients

Mostafa Madmoli^{1*}, Mohammad Madmoli², Marzieh Abbaszade Aliabad³, Mahboobeh Khodadadi⁴, Fahimeh Papi Ahmadi⁴

^{1*}Emergency Medical Technician, Dezful University of Medical Sciences, Dezful, Iran

²Student Research Committee Shoushtar faculty of Medical Sciences, Shoushtar, Iran

³Kerman University of Medical Sciences, Kerman, Iran

⁴Nursing Student, Student Research Committee, Dezful University of Medical Sciences, Dezful, Iran

ABSTRACT

Introduction: Traditional education seems to be sufficient in meeting the needs related to knowledge 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 education approach to diabetic patients has changed, as well as the theory and research on diabetes was introduced. 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. This systematic review was conducted with the aim of empowerment in improving self-care behaviors in diabetic patients. **Materials and Methods:** In order to achieve the aim of the study and to improve the accuracy of the study and its comprehensive understanding, this review study was conducted based on the Broome method. This method is carried out in three steps: searching for texts, evaluating data and analyzing data. So, in the search phase, post-retrospective study 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 of the analysis of the data. **Results:** In this study, 12 articles were reviewed that showed that the empowerment approach of diabetic patients improves self-efficacy and self-care scores and reduces hemoglobin A1C, Improvement of general self-care behaviors, reduction of mean glycosylated hemoglobin and improvement of quality of life, blood glucose control, and so on. **Conclusion:** In researches done on the empowerment approach of diabetic patients, the importance of empowerment approach is confirmed by increasing control and self-care and improving some other factors in diabetic patients. Therefore, considering the importance of the concept of empowerment as an effective approach to supporting patients with diabetes, it is necessary to consider this approach in further research.

Key words: Empowerment approach, diabetes, diabetic patients.

Corresponding Author

Mostafa Madmoli, Emergency Medical Technician, Dezful University of Medical Sciences, Dezful, Iran.

E-Mail: mostafamadmoli10@yahoo.com

Article Info: Received: 10.01.2019

Accepted : 27.02.2019

Introduction

Diabetes is the most common disease due to metabolic disorders and is considered a global challenge. It is a heterogeneous chronic, metabolic and genetic disorder characterized by increased levels of blood glucose and metabolic abnormalities in carbohydrates, proteins, and fats [1-5]. The prevalence of this disease in Iran is more than 14 percent, according to the statistics released by the health department's health

department in a population over the age of 30 years. Diabetes is one of the most important health and socio-economic problems in the world today, with many complications such as blindness, nephropathy, neuropathy, and cardiovascular disease. [6-12].

The overall complications of diabetes cause a lot of illnesses. Compliance with a program and diet in these patients is one of the bases for individual diabetes management. Lifestyle

behaviors, including nutritional behaviors, play an important role in preventing and managing diabetes. [13-19].

Among diabetic patients, depression is one of the most common psychiatric disorders in adolescence[20-21]. 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 [22-25]. High occupational stress is known as a known psychosocial factor in cardiovascular disease [26]. Diabetes is also one of the most common endocrine complications in people with thalassemia [27]. Thalassemia is one of the most commonly diagnosed blood disorders that is genotyped (recessive and non-dependent) from generation to generation [28,29].

Among the chronic diseases, such as diabetes, only a small proportion is being treated by the specialist, while most diseases are managed by the individual and his family [30, 31]. Traditional education seems to be adequate in meeting the needs of patients, but by recognizing the impact of psychosocial issues and the environment on patient behavior, teaching techniques have been used to change the behavior of patients, and the approach to training for patients with diabetes has changed, and also The theory and research on diabetes came into being and the focus of the capacity building approach was changed to self-efficacy and empowerment. Empowerment is a collaborative approach to diabetes care and patient education. [32,33].

This systematic review was conducted with the aim of empowerment in improving self-care behaviors in diabetic patients.

Materials and Methods

In order to achieve the aim of the study and to improve the accuracy of the study and its comprehensive understanding, this review study was conducted based on the Broome method. This method is carried out in three steps: searching for texts, evaluating data and analyzing data. So, in the search phase, post-retrospective study 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 of the analysis of the data.

The criteria for entering articles, including studies published in Farsi and in English, had access to their full text, published over the past 25 years, and interventional studies based on the

empowerment approach of patients with diabetes and exclusion criteria included Unnamed, unannounced and unpublished studies, and articles lacking the full text of the article.

This review is a systematic review using the articles published in the last 25 years regarding the impact of empowerment on improving self-care behaviors and some other factors in diabetic patients. It was conducted in English and Persian by searching articles in search engines, sites and authoritative scientific databases SID, Magiran, Embase, Research Gate, Science direct, Google Scholar, PubMed, Springer. In the first stage, 37 articles were found. Of these, 12 related articles that have been published in the last 25 years have been reviewed.

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

Results

Among the chronic diseases, such as diabetes, only a small proportion is being treated by the specialist, while most diseases are managed by the individual and his family [30, 31]. In the empowerment approach, the need to adapt to the needs of patients and reflect their experiences in life with diabetes, with the aim of identifying and enhancing the strengths and making informed choices, is necessary and necessary. It has been shown that increasing awareness of diabetes alone is not enough to initiate, maintain, and maintain self-management behaviors and long-term control of diabetes [34]. We reviewed 12 articles on the empowerment impact on improving self-care behaviors and some other factors in diabetic patients.

In a study on empowerment in people with diabetes, it was found that the results of these studies will reduce the average glycosylated hemoglobin, improve general self-care behaviors, and so on. For example, in studies [35-40], these interventions increased the level of knowledge, increased self-efficacy and improved quality of life for adolescents, improved self-efficacy and self-care scores, and decreased hemoglobin A1C, improved overall self-care behaviors, decreased mean glycosylated hemoglobin and improved Quality of life and control of blood glucose.

It also increased the psychosocial self-efficacy of diabetics in psychological aspects, increased mean score of knowledge, self-efficacy and self-esteem, promotion of knowledge and confidence

in diabetes, increased mean score of knowledge, increased control over disease. And improving self-care and knowledge, improving clinical results for HbA1c and LDL and reducing blood glucose, reducing clinical trials (HbA1c and weight and BMI), and improving physical activity, diet, and controlling stress and emotions, promoting knowledge and understanding of diabetes and decreased cholesterol, weight, blood glucose and BMI, and improved quality of life and self-care behaviors [41-46].

Discussion

Diabetes is the most common disease due to metabolic disorders and is considered a global challenge. It is a heterogeneous chronic, metabolic and genetic disorder characterized by increased levels of blood glucose and metabolic abnormalities in carbohydrates, proteins, and fats [1-5]. Traditional education seems to be adequate in meeting the needs of patients, but by recognizing the impact of psychosocial issues and the environment on patient behavior, teaching techniques have been used to change the behavior of patients, and the approach to training for patients with diabetes has changed, and also The theory and research on diabetes came into being and the focus of the capacity building approach was changed to self-efficacy and empowerment. Empowerment is a collaborative approach to diabetes care and patient education. [32,33].

In the empowerment approach, the need to adapt to the needs of patients and reflect their experiences in life with diabetes, with the aim of identifying and enhancing the strengths and making informed choices, is necessary and necessary. It has been shown that increasing awareness of diabetes alone is not enough to start, maintain, and maintain self-management behaviors and long-term control of diabetes. Therefore, in designing empowerment interventions, it is recommended to pay attention to the use of appropriate educational technologies and multimedia resources and social and interactive strategies [47]. This systematic review was conducted with the aim of empowerment in improving self-care behaviors in diabetic patients.

We reviewed this article by reviewing 12 research articles that these studies emphasize the empowerment approach in improving self-care behaviors and some other factors in diabetic patients.

According to the results of the study [35], the implementation of the empowerment plan has

been able to increase the effectiveness of patients in controlling blood glucose and effectively reduce the level of glycosylated hemoglobin in type II diabetic patients.

According to the results of the study [36], an empowering 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. This study suggests that this model should be implemented in other age groups of society and more widely.

In all of the studies, more empowerment has been emphasized 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. In two studies that used peer support strategies, social empowerment was not addressed in other studies. While in individual empowerment, it refers to the individual's ability to make decisions and control his or her personal life, and in social empowerment, individuals are involved in maximizing the impact and control of determinants of health and quality of life in the community [50].

The empowerment process is related to the environmental and social context, and is a social process that is gained with the participation of others [51], but in most studies its social dimension has not been paid attention.

Conclusion

In researches done on the empowerment approach of diabetic patients, the importance of empowerment approach is confirmed by increasing control and self-care and improving some other factors in diabetic patients. Therefore, considering the importance of the concept of empowerment as an effective approach to supporting patients with diabetes, it is necessary to consider this approach in further research.

Acknowledgment

The authors of this article is grateful to all those who have collaborated with me in this article.

References

1. Moslemirad M, Madmoli M, Madmoli Y, Niksefat M. Prevalence of type 1 and type 2 diabetes and its related factors in diabetic patients hospitalized in Khatam-ol-Anbia

- hospital in Shoushtar, 2014-15: A retrospective study. *Journal of Research in Medical and Dental Science*. 2018;6(3):421-6
2. Madmoli M, Eilami O, Rezaie K, Aliabad MA, Moslemirad M. Diabetes and the risk of suffering cardiovascular Diseases: A two-year retrospective study. *International Journal of Ecosystems and Ecology Science (IJEES)*. 2018 Jun;8(3): 649-56.
 3. Madmoli M Rostami F, Mirsami Yazdi N, Mosavi A, Baraz Sh. Evaluation of Prevalence of Diabetic Foot Ulcer and Its Related Factors in Diabetic Patients Admitted to KHatam-ol-Anbia Hospital in Shoushtar During 2015-2016: A Retrospective Study. *International Journal of Ecosystems and Ecology Science (IJEES)*. 2018 June; 8 (3): 545-52.
 4. Rostami F, Madmoli M, Mirsami Yazdi N, Baraz Sh. Evaluation of The Prevalence of Lower Limb Amputation and Its Related Factors in Diabetic Patients Admitted to KHatam-ol-Anbia Hospital in Shoushtar During The 2015-2016: A Retrospective Study. *International Journal of Ecosystems and Ecology Science (IJEES)*. 2018 June; 8 (3): 553-60.
 5. Raisifar Z, Afshar Nia A, Madmoli M, Madmoli Y. The Relationship Between Using Insulin and Suffering Alzheimer's Disease in Patients with Diabetes: A Two-Year Study. *International Journal of Ecosystems and Ecology Science (IJEES)*. 2018 June; 8 (3): 623-28.
 6. Raisifar Z, Afshar Nia A, Maghamesi Moarrefi H, Madmoli M. Evaluation of Gi Bleeding Prevalence and Its Related Factors in Diabetic Patients Hospitalized in KHatam-ol-Anbia Hospital During 2015-16: A Retrospective Study. *International Journal of Ecosystems and Ecology Science (IJEES)*. 2018 June; 8 (3): 609-14.
 7. Madmoli M, Kord Z, Bandani A, Sedighi N, Rezaei Shandiz M, Darabiyani P, AfsharNia A. Epidemiological and clinical study of patients with Alzheimer's in Five Cities of Khuzestan Province in 2016-2018. *Medical Science*, 2019; 23(95), 1-5
 8. Mashali H, Toleideh F, Rahmani R, Darabiyani P, Madmoli M. The predictive role of Hyperlipidemia in the incidence of ACS in patients referring to Shahidzadeh Hospital in Behbahan in 2016 -2017. *Medical Science*, 2018; 22(94), 566-570
 9. Madmoli M, Modheji Y, Rafi A, Feyzi R, Darabiyani P, AfsharNia A. Diabetes and its predictive role in the incidence of Alzheimer's disease. *Medical Science*, 2019; 23(95), 30-34
 10. Madmoli M, Fallah bagher shidaei M, Rohani A, Darabiyani P, Mobarez F. The correlation between alcohol consumption and reducing the age of cancer incidence in patients with this disease. *Medical Science*, 2019, 23(95), 48-53
 11. Madmoli M, Mahmoudi Dehcheshmeh Z, Rafi A, Zahra Kord, Fariba Mobarez, Pouriya Darabiyani. The rate of some complications and risk factors of diabetes in diabetic patients: Study on cases of 3218 diabetic patients. *Medical Science*, 2019; 23(95), 63-68
 12. Mostafa Madmoli, Mehran Yarbig, Negin Sedighi, Pouriya Darabiyani, Fariba Mobarez. Communication between body mass index and the risk of obesity-related cancer: A 5-year study on patients with cancer. *Medical Science*, 2019; 23(95), 69-74
 13. Madmoli M, Madmoli Y, Khodadadi M, Samsamipour M. Some Factors Affecting Quality of Life in Patients with Diabetes: A systematic Review. *Annals of Microbiology and Infectious Diseases*. 2019; 2(1). 26-30.
 14. Madmoli M. Clinical and Laboratory Finding in Children with Leukemia: a Systematic Review. *International Journal of Research Studies in Science, Engineering and Technology*, vol. 5, no. 10, pp. 1-6, 2018.
 15. Madmoli M. Evaluation of Chemotherapy Complications in Patients with Cancer: A systematic Review. *International Journal of Research Studies in Science, Engineering and Technology*, vol. 5, no. 12, 2018; 59-64.
 16. Madmoli M. A Systematic Review Study on the Changer Factors of the Quality of life in Cancer Patients. *Int. Res. Med. Health Sci.*, 2019; 2(1):8-15.
 17. Madmoli M. A systematic Review Study on the Results of Empowerment-Based Interventions in Diabetic Patients. *Int. Res. Med. Health Sci.*, 2019; 2(1):1-7.
 18. Madmoli M, Madmoli Y, Khodadadi M, Samsamipour M. Factors Affecting the Level of Glycosylated Hemoglobin in Patients with Diabetes: A Systematic Review. *Annals of Microbiology and Infectious Diseases* 2(1), 2019; 43-47.
 19. Madmoli M, Madmoli Y, Khodadadi M, Samsamipour M. Study of Some Effective Treatments for Accelerating Diabetic Foot Ulcer Healing: A Systematic Review. *International Journal of Research Studies in Science, Engineering and Technology*. 6(2), 2019; 34-39

20. Lee HJ, Park Ky, Park HS. Self-care activity, Metabolic control, and cardiovascular risk factors in accordance with the levels of depression of clients with type 2 diabetes mellitus. *Taehan Kanho Hakhoe Chi* 2005; 35: 283-291.
21. Madmoli M, Madmoli Y, Bigdeli Shamloo MB, Etebari A, Mahmoodi Kouhi A, Azami M. The Relationship Between Depression and Religiousness in Female High School Students of Masjed Soleyman in 2015. *Journal of Pediatric Nursing*. 2017 Jun 15;3(4):15-22.
22. Madmoli Y, Madmoli M, Qashqaei Nezhad N, Bosak S. Prevalence of depression and associated factors in adolescents of Masjed-Soleyman. *Iranian Journal of Pediatric Nursing*. 2016.
23. Gheisari Z, Beiranvand R, Karimi A, Ghalavandi S, Soleymani A, Madmoli M, Bavarsad AH. Relationship between Occupational Stress and Cardiovascular Risk Factors Determination: A Case-control Study. *Journal of Research in Medical and Dental Science*. 2018 May 17;6(3):287-93.
24. Madmoli M, Nikpay S. An Investigation of the Relationship between Spiritual Health and Depression, Anxiety, and Stress among Students of Ilam University of Medical Sciences. *Journal of Research in Medical and Dental Science*. 2018 May 17;6(3):294-300.
25. Adavi A, Hamid N, Attari Y, Madmoli Y, Madmoli M. Study of the Effect of Problem-Solving Skills Training on Creativity and Assertiveness Among High School Students. *Iranian Journal of Nursing Research*. 2016 Dec 15;11(5):48-55.
26. Roughani A, Madmoli M, Raisifar Z, Kikhavani S, Yasemi M, Azami M, Sharifi Z. The prevalence of behavioral disorders and its related factors in elementary school children in Ilam City in 2011–2012. *Indian Journal of Forensic Medicine & Toxicology*. 2018;12(4):165-9.
27. Madmoli Y, Akhaghi Dezfuli SM, Beiranvand R, Saberi Pour B, Azami M, Madmoli M. An epidemiological and clinical survey of patients with β -thalassemia in dezfoul in 2015. *Iranian Journal of Epidemiology*. 2017;13(2):145-52.
28. Madmoli Y, Akhaghi Dezfuli SM, Adavi A, Maraaghi E, Heidari Soureshjani R, Madmoli M. The Effect of Orem Self-Care on Mental Health of Patients with Thalassemia Major. *Journal of Clinical Nursing and Midwifery*. 2018 Jul 1;7(2):108-15.
29. Madmoli M, Madmoli Y, Rahmati P, Adavi A, Yousefi N, Gheisari Z, Abbaszade Aliabad M. Quality of Life and Some Related Factors in Patients with Beta Thalassemia Major in Southwest Iran. *Journal of Client-centered Nursing Care (JCCNC)*. 2017;3(2).
30. Madmoli M. Quality of Life in Patients with Cancer and Some Factors Affecting it: A Systematic Review. *International Journal of Research Studies in Science, Engineering and Technology*. 6(1), 2019; 1-7
31. Taheri Z, Khorsandi M, Taheri Z, Ghafari M, Amiri M. Empowerment-Based Interventions in Patients with Diabetes: A Review Study. *JRUMS*. 2016; 15 (5) :453-468
32. Tol A, Alhani F, Shojaezadeh D, Sharifirad G. Empowerment approach to promote quality of Life and self-Management among type 2 diabetic patients. *J of Health Systems Research* 2012; 7(2): 157-68.
33. Funnell M, Anderson R, Arnold M, Barr P, Donnelly M, Johnson P. Empowerment: an idea whose time has come in diabetes education. *Diabetes Education* 1991; 17(1): 37-41.
34. Adolfssoon E, Strain B, Smide B, Wikblad K. Type 2 diabetes experiences of two different educational approach-A qualitative study. *International Journal of Nursing Studies* 2008: 45; 986-94.
35. Anderson R, Funnell M, Butler P. Patient empowerment: Results of a randomized controlled trial. *Diabetes care* 1995; 18: 943-9.
36. Corabian P, Harstall C. Patient diabetes education in the management of adult type 2 diabetes. *Health Technol Assessment* 2001; 23(1): 1-8.
37. Shahbodaghi Z, Borhani F. The effects of empowerment program on hemoglobin A1C, type 2 diabetes patients. *Medical-Surgical Nursing Journal* 2012; 1(2): 24-30
38. Shojaezadeh D, Tol A, Sharifirad G, Alhani F. Effect of education program based on empowerment model in promoting self-care among type 2 diabetic patients in Isfahan. *Razi Journal of Medical Sciences* 2013; 20(107): 18-31.
39. Heidari M, Alhani F, Kazemnejad A, Moezzi F. The effect of empowerment model on quality of life of Diabetic adolescents. *Iran Journal Pediatr* 2007; 17(1): 87-94.
40. Emani Z, Reani M, Borhani F, Dortaj E. Effect of empowerment on attitudes towards disease in patients with type 1 diabetes. *Journal of Nursing and Midwifery, Kerman* 2011; 10(2): 1-8.

41. Ninfa C, Pena-Purcell, May M. Boggess, Natalia Jimenez. An Empowerment-Based Diabetes Self-Management Education Program for Hispanic/Latinos. *The Diabetes Educator* 2011; 37(6): 770-9.
42. Zamanzadeh V, Rasoli E, Jabarzadeh F. Effects of intervention-based empowerment on management psychosocial in diabetic patients. *Journal of Nursing and Midwifery* 2008; 11: 25-32.
43. Shojaeezadeh D, Tol A, Sharifirad G, Mohajerani M, Alhani F. Education programs based on empowerment model to enhance self-efficacy and its relationship to diabetes control in patients with type 2 diabetes. *Iranian Journal of Diabetes and Lipid Disorders* 2012; 11(5): 474-82.
44. Heidari M, Alhani F, Kazemnejad A, Tol A, Moezi F. Assessing the effect of educational program based on empowerment model on HbA1C among adolescents with type 1 diabetes. *Journal of Health Systems Research* 2012; 8(7): 1376-84.
45. Adolfsson ET, Walker-Engstrom ML, Smide B, Wikblad K. Patient education in type 2 diabetes—A randomized controlled 1-year follow-up study. *Diabetes Research and Clinical Practice* 2007; 76: 341-50.
46. Corabian P, Harstall C. Patient diabetes education in the management of adult type 2 diabetes. *Health Technol Assessment* 2001; 23(1): 1-8.
47. Carlos K H, William CW, Cindy LK, Wan YF, Winnie HT, Chung KL, et al. Effects of Patient Empowerment Programme (PEP) on clinical outcomes and health service utilization in type 2 diabetes mellitus in primary care: an observational matched cohort study. *PLOS ONE* 2014; 9(5): 1-10.
48. Bastiaensa H, Sunaertb P, Wensa J, Sabbec B, Jenkinse L, Nobelse F, et al. Supporting diabetes self-management in primary care: Pilot-study of a group-based programme focusing on diet and exercise. *primary care diabetes* 2009; 3: 103-9.
49. Naik AD, Teal CR, Rodriguez E, Haidet P. Knowing the ABCs: A comparative effectiveness study of two methods of diabetes education. *Patient Education and Counseling* 2011; 85: 383-9.
50. Pibernik-Okanovic M, Parasek M, Poljicanin-Filipovic T, Pavlic-Renar I, Metelko Z. Effects of an empowerment-based psychosocial intervention on quality of life and metabolic control in type 2 diabetic patients. *Patient Education and Counseling* 2004; 52(2): 193-9.
51. Shearer N, Reed P. Empowerment: Reformulation of a non-Rogerian concept. *Nursing Science Quarterly* 2004; 17(3): 53-9.

Conflict of Interest: None

Source of Support: Nil