

## The Effect of Some Factors on Self-Care in Diabetic Patients: A Systematic Review

Mostafa Madmoli<sup>1\*</sup>, Marzieh Abbaszade Aliabad<sup>2</sup>, Mohammad Madmoli<sup>3</sup>, Mahboobeh Khodadadi<sup>4</sup>, Fahimeh Papi Ahmadi<sup>4</sup>

<sup>1</sup> Emergency Medical Technician, Dezful University of Medical Sciences, Dezful, Iran \*

<sup>2</sup> Kerman University of Medical Sciences, Kerman, Iran

<sup>3</sup> Student Research Committee Shoushtar faculty of Medical Sciences, Shoushtar, Iran

<sup>4</sup> Nursing Student, Student Research Committee, Dezful University of Medical Sciences, Dezful, Iran

\*Corresponding Author: Mostafa Madmoli, Emergency Medical Technician, Dezful University of Medical Sciences, Dezful, Iran

### ABSTRACT

**Introduction:** Diabetes is a major cause of morbidity and mortality in the industrialized and developing world. And due to its late and dangerous effects, it has paid more attention to it day by day. Improving self-care behaviors is the first step in helping patients to take care of their illness. Diabetes self-care may be a function of individual, psychological, and social factors that their understanding and understanding will help health care providers to develop appropriate interventions to promote diabetes self-care behaviors. Given that diabetes is one of the serious global problems and self-care plays an important role in controlling it. Therefore, this systematic review study aimed at the effect of some factors on self-care in diabetic patients.

**Materials and Methods:** In this systematic review, in order to achieve the goal of the study and to improve the study's precision and its comprehensive understanding, 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, 12 articles were reviewed one of these studies aimed at determining the effect of Self-care education through Teach Back method on self-care behaviors in type II diabetic patients, showed that after the intervention (91.4%) the patients in the experimental group had a good performance and (77.1%) the control group had a moderate performance regarding blood glucose control there was a significant difference between the two groups. Also, there was a significant difference between the total self-care score of the patients in the test group compared to the control group.

**Conclusion:** According to the results of studies and differences in some characteristics of the patient, Patients with different dimensions of self-care and knowledge require training in diabetes centers to be more practical and more emphasis on making changes in both knowledge and behavior, and improving attitude and self-efficacy in individuals. Also, according to the results of some studies, patients with diabetes had a poor self-care and this poor self-care every year imposes a lot of costs on affected people. Therefore, it is necessary to find ways to improve the self-care of these patients.

**Keywords:** Self-care, Diabetic patients, Diabetes

### INTRODUCTION

In the world every 10 seconds, one person died because of diabetes, and according to the World Health Organization, by 2020, around 333 million people will be affected worldwide. Diabetes is a major cause of morbidity and mortality in the industrialized and developing world. And due to its late and dangerous effects, it has been paying more attention day by day. The disease has spread in the late 20th century,

and there is currently no sign of stopping it (1-7). 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. (8-12). The overall complications of diabetes cause a lot of illnesses. Patients with diabetes are more likely to develop cancer than the general population. 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 is a physical and emotional response that can lead to illness and injury (22-25). Diabetes is one of the most common endocrine complications in people with thalassemia (26). Thalassemia is one of the most common blood disorders that is genetically transmitted from generation to generation (27, 29). Diabetes is one of the serious global problems, self-care plays an important role in controlling it (30). Therefore, this systematic review study aimed at the effect of some factors on self-care in diabetic patients.

### MATERIALS AND METHODS

In this systematic review, in order to achieve the goal of the study and to improve the study's precision and its comprehensive understanding, 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.

The criteria for the entry of articles, including those published in Persian and English, were the full access to their full text, printed over the past 20 years and intervention studies that focused on the effect of peer education on patient self-care behaviors. 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 published articles in the last 20 years on the effects of some factors on self-care in diabetic patients. It was conducted in English and Persian by searching articles in search engines, authoritative scientific sites and databases SID, Google Scholar, Embase, Research Gate, Science direct, PubMed, Springer. In the first stage, 35 papers were found. Of these, 12 articles related to the topic that were published in the last 20 years were reviewed.

To achieve relevant studies, a wide range of keywords including Self-care, Diabetic patients

and Diabetes was used as a one-to-one search, combined with the method "And" and "OR".

### RESULTS

The results of the research showed that there was a significant relationship between age, sex, history of diabetes, educational level, self-efficacy, social support, patient education, marital status, income status of patients with occupation. Also, in some studies, five variables of self-efficacy, belief in therapeutic efficacy, social support, mild diabetes and insulin therapy are among the variables that influence the prediction of diabetes self-management. These are more important than other variables. So, the higher and the higher the variables, the self-management of diabetes is also increasing.

Also, the comparison of the mean of behavioral score in different aspects of self-care showed that the average of behaviors in the diet dimension and the correct use of drugs was highest and had the smallest amount of blood glucose control and physical activity (31-38).

In a study conducted on people trained by physicians and non-trained health personnel, showed that the mean self-care score in the trained subjects was 3.66 units more than those who did not receive training and also the study of the income variable in the affected population indicates that the average self-care score in individuals with an income higher than 500 thousand tomans was 3.91 times more than those with income less than 500 thousand (32). Also, there was a significant relationship between self-care and patient visit in the clinic that Knowledge and education in the referring subjects increased their mean self-care score (32, 37).

Data analysis revealed that there were five main barriers to self-care, including physical barriers, psychological barriers, social barriers, educational barriers, and barriers to care. As well as the motivating factors for self-care, including belief in diabetes, perceived family responsibilities, religious beliefs, and follow-up and continuing education. Also, in some studies, there was no significant relationship between self-care and age and sex, weight and height, occupation, marital status and family history of diabetes. Also, self-care status was significantly correlated with duration of education and education, so that self-care increased with increasing duration of self-care and illiterate people had good self-care. Based on the results of this study, the type of treatment and marital

status were related only to the foot care dimension. (32,33,36,39,40).

Also, the results of some studies showed that 47.2% of the subjects had a poor self-care and there was a significant relationship between self-care and sex and physical activity (41). In diabetic patients, self-care education is one of the key approaches to successful diabetes management. Teach Back is an interactive educational tool that can enhance knowledge and understanding of the patient and improve their self-management.

In a study (42), aimed at determining the effect of Self-care education through Teach Back method on self-care behaviors in type 2 diabetic patients, showed that after the intervention (91.4%) the patients in the experimental group had a good performance and (77.1%) the control group had a moderate performance on blood glucose control and there was a significant difference between the two groups. Also, there was a significant difference between the total self-care score of the patients in the test group compared to the control group.

### DISCUSSION

In the world every 10 seconds, one person died because of diabetes, and according to the World Health Organization, by 2020, around 333 million people will be affected worldwide. Diabetes is a major cause of morbidity and mortality in the industrialized and developing world. And due to its late and dangerous effects, it has been paying more attention day by day. The disease has spread in the late 20th century, and there is currently no sign of stopping it (1-7). Improving self-care behaviors is the first step in helping patients to take care of their illness. Diabetes self-care may be a function of individual, psychological, and social factors that their understanding and understanding will help health care providers develop effective interventions to promote diabetes self-care behaviors (38). Diabetes is one of the serious global problems, self-care plays an important role in controlling it (30). Therefore, this systematic review study aimed at the effect of some factors on self-care in diabetic patients.

According to study (39), self-care status was significantly correlated with duration of education and education, As the duration of self-care increased with increasing duration of illness, illiterate people had good self-care. Based on the results of this study, the type of treatment and marital status were related only to

the foot care dimension, it can be said that due to the results of the study and the differences in some characteristics of the patient, patients with different dimensions of self-care and knowledge need training in diabetes centers more practical and emphasize on making changes in both knowledge and behavior, and improving attitude and Feel self-efficacy in people. Also, according to study (41), it can be said that patients with diabetes have a poor self-care and this weak self-care every year imposes a lot of costs on affected people. Therefore, it is necessary to find ways to improve the self-care of these patients. According to study (42), the use of Teach Back method has a positive effect on increasing self-care in diabetic patients. And can play an effective role in reducing the complications of the disease and improving the quality of life of patients.

### CONCLUSION

According to the results of studies and differences in some characteristics of the patient, Patients with different dimensions of self-care and knowledge require training in diabetes centers to be more practical and more emphasis on making changes in both knowledge and behavior, and improving attitude and self-efficacy in individuals. Also, according to the results of some studies, patients with diabetes had a poor self-care and this poor self-care every year imposes a lot of costs on affected people. Therefore, it is necessary to find ways to improve the self-care of these patients.

### ACKNOWLEDGMENT

The author 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, Darabiyan 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, Darabiyan 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, Darabiyan 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 shaidaei M, Rohani A, Darabiyan 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 Darabiyan. 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 Yarbigh, Negin Sedighi, Pouriya Darabiyan, 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 Findings 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, 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.
- [17] 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
- [18] 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
- [19] Madmoli M. A Systematic Review Study on the Change Factors of the Quality of life in Cancer Patients. *Int. Res. Med. Health Sci.*, 2019; 2(1):8-15.
- [20] 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.
- [21] 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.
- [22] 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.
- [23] 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.
- [24] 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.
- [25] 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
- [26] 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.
- [27] Madmoli Y, Akhaghi Dezfuli SM, Beiranvand R, Saberi Pour B, Azami M, Madmoli M. An epidemiological and clinical survey of patients with  $\beta$ -thalassemia in dezful 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] Noroozi A, Tahmasebi R, Shaybani B. Relationship between personality trait and self-management in diabetic patients referred to Bushehr medical centers in 2012-13. *Tıbb-i junüb*. 2014 Jan 1;16(6):436-46.
- [31] Rahimian BI, Mohajeri TM, Besharat M, Talepasand S. Psychological, social and structural determinants of diabetes self-management. 2012; 467-478.
- [32] Rahimian BI, Mohajeri TM, Besharat M, Talepasand S. Psychological, social and structural determinants of diabetes self-management. 2012; 467-478.
- [33] Taghipour A, Moshki M, Mirzaei N. Determination of Effective Factors on Self-care Behaviors in Women with Diabetes Referring to Mashhad Health Centers. Iranian Journal of Health Education and Health Promotion. 2017 Nov 15;5(4):328-35.
- [34] Nouhjah S. Self-care behaviors and related factors in women with type 2 diabetes. Iranian Journal of Endocrinology and Metabolism. 2015 Mar 15;16(6):393-401.
- [35] Mazloomi S, Mody M, Malakimoghdam H, Tavasoli E, Vahdani Nia Z. PREDICTORS OF SELF-CARE IN TYPE 2 DIABETIC PATIENTS IN BIRJAND AND YAZD CITY. Iranian Journal of Diabetes and Metabolism. 2018 Mar 15;17(2):97-104.
- [36] Abbaspour S, Shamaeiyan N, Hasanzadeh M, Zandi Z, Sepehri A. Self-care behaviors among diabetic patients referred to a selected hospital clinic in Torbate Heydariyeh. Journal of Torbat Heydariyeh University of Medical Sciences. 2013;1(1):65-70.
- [37] Shakibazade E, Larijani B, Rashidian A, Shojaazadeh D, Forouzanfar M H. Comparison of Views of Patients with Type 2 Diabetes with Specialized Diabetes Specialists on Self-Care Effective Factors: Qualitative Study. Journal of Diabetes and Metabolism of Iran. 1389; 9 (2): 142-151
- [38] Diadarloo D, Eftekhari A, Niknamami Sh, Hajizadeh A. Factors Affecting Self-Care Behavior in Diabetic Women Referring to Diabetes Clinic in Khoy City are developed based on the theory of rational action. Quarterly Journal of School of Public Health and Institute of Health Research. Nov. 15, 2011; 9 (2): 79-92.
- [39] Baghaei P, Zandi M, Vares Z, Masoudi Alavi N, Adib-Hajbaghery M. Self-care situation in diabetic patients referring to Kashan Diabetes Center, in 2005. *Feyz*. 2008; 12 (1) :88-93
- [40] Morrowati Sharifabad M A, Rouhani Tonkaboni N. Diabetes self-care determinant pattern in patients referring to Yazd Diabetes Research Center. 2013;33-38
- [41] Firooz, M., Hosseini, S., Mazlom, S., Hasan zadeh, F., Kimiyae, S. Self-care of patient with diabetes type II. Journal of Sabzevar University of Medical Sciences, 2016; 22(6): 1018-1025.
- [42] Oshvandi K, Jokar M, Khatiban M, Keyani J, Yousefzadeh M R, Sultanian A R. The effect of self-care education based on teach back method on promotion of self-care behaviors in type ii diabetic patients: a clinical trial study. *ijdl*. 2014; 13 (2) :131-143

**Citation:** Mostafa Madmoli, Marzieh Abbaszade Aliabad, Mohammad Madmoli, Mahboobeh Khodadadi, Fahimeh Papi Ahmadi, "The Effect of Some Factors on Self-Care in Diabetic Patients: A Systematic Review" *Journal of Genetics and Genetic Engineering*, 3(1), pp 21-25

**Copyright:** © 2019 Mostafa Madmoli. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.