Original Article

Association between Self Care and Knowledge of Type II of Diabetic Patients Attending Al-Hilla City, Iraq

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Abstract

Background: Diabetes mellitus (DM), in particular type II, has lately become a serious medical condition with elevated probability of increasing comorbidity, because it is a lifelong illness that needs both good self-care and a person with sufficient knowledge about the disease. **Objectives:** The aim of this study to find the association between the patients' knowledge on type II diabetes and self-care outcome. **Materials and Methods:** The study was carried out using a descriptive research approach. To achieve the objectives of the study, the researcher created the questionnaire. A descriptive study design from 50 patients was chosen. The validity of the instrument was assured by 11 experts, and the instrument's reliability was established through making a pilot study. The data were analyzed through using descriptive and inferential statistics by using of SPSS version 20.0 for analysis of questionnaire, The level of Cronbach's alpha for patient knowledge (20 items) is (0.82), while self-care (30 items) is (0.81). **Results:** The study findings indicated a significant association between the patient knowledge and self-care at *P* value (0.008) < 0.05. **Conclusion:** The majority of patients with DM have a significant association between the patients knowledge and self-care outcome.

Keywords: Self-care, knowledge, type II diabetes

Background

Diabetic can be categorized into the following classifications: Type I diabetic (caused by the death of beta cells by the immune system, resulting in complete insulin insufficiency) and diabetes type 2 (caused by a gradual loss of sufficient-cell insulin production, often in the context of insulin resistance). Gestational diabetes is a condition that occurs when a woman is pregnant (diabetes could be diagnosed in the 2nd or 3rd trimester of pregnancy that was not clearly overt diabetes before gestation) Monogenic diabetic syndromes (such as newborn diabetes and young-onset DM), illnesses of the exocrine pancreas (such as cystic fibrosis and pancreatitis), and drug- or chemical-induced diabetes (such as with glucocorticoids, in the treatment of HIV/ AIDS, or following organ donation).[1-3] Family members are a crucial source of social support for diabetes patients' self-care, and a lack of family support might be one of the most significant hurdles to patient self-care management. Patients' hurdles include lack of attendance at visits, unwillingness to commit to regular meetings, and patients not prioritizing diabetes self-management, according to the findings of a psychological intervention study and nurses' experiences of participation.[4-6] Evidence suggests that self-efficacy is an important component predicting positive self-care behavior in chronic disease. It is important to examine the effect of self-efficacy on glycemic control, self-care behaviors, and quality of life in low-income, minority populations with type II diabetes.[7,8] However, whether

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Table 1: Descriptive statistics of demographic data of sample

Demographic characteristic	Clusters	Study groups	
		F	%
Age (years)	<20 years	3	12.0
	20–29 years	2	8.0
	30–39 years	3	12.0
	40–49 years	2	8.0
	50–59 years	6	24.0
	60 and older	9	36.0
	Total	25	100.0
	Mean ± SD	44.44 ± 16.571	
Gender	Male	9	36.0
	Female	16	64.0
	Total	25	100.0
Education	Unable to read and write	2	8.0
	Read and write	11	44.0
	Primary school graduate	4	16.0
	Secondary school graduate	5	20.0
	Institute and above	3	12.0
	Total	25	100.0
Marital status	Single	2	8.0
	Married	20	80.0
	Divorced	3	12.0
	Total	25	100.0
Family type	Nuclear	22	88.0
	Extend	3	12.0
	Total	25	100.0
Occupation	Employee	9	36.0
	Unemployed	3	12.0
	Retired	5	20.0
	House wife	8	32.0
	Total	25	100.0
Residents	Urban	18	72.0
	Rural	7	28.0
	Total	25	100.0
Economic	Enough	2	8.0
	Enough to some extent	6	24.0
	Not enough	17	68.0
	Total	25	100.0

F = Frequency

health-care practitioners have sufficient resources or abilities to support good eating for diabetic patients is not consistently recorded. Lack of advanced nutrition understanding on diabetes diet and communication skills with diabetes patients, such as psychological training, were hurdles to successful dietary teaching for health-care workers. Psychological skill development is also a necessary component of diabetes education. In diabetic counseling, dietitians, who are educated to provide medical nutrition treatment, play an essential role.[9] Nutrition education is occasionally offered by other types of delivery agents, including health care professionals, community health workers, or others, due to restricted availability to dietitians and possibly greater program costs compared to other types of intervention delivery agents. A comprehensive review and meta-analysis of nutrition education for diabetes prevention indicated that dietitian-provided treatments resulted in more weight loss than those offered by other individuals. There is no uniform trend across distribution methods.[10] Diabetes self-management education (DSME) is a cornerstone for optimal diabetes care, according to the American Diabetes Association. The importance of DSME is due to the complexity of controlling type-2 diabetes. Patients are assigned a variety of responsibilities, including attending medical visits on a regular basis, adhering to verified prescription regimens, and engaging in self-care behaviors such as at-home blood glucose monitoring, healthy food adjustments, and increased physical exercise.[11] People with diabetes require reinforcement of diabetes

Table 2: Distribution of sample by their knowledge about type II diabetes mellitus

Knowledge items		M.s.	SD	Ass.
1	Diabetes is a serious disease	1.84	0.850	Fair
2	Diabetes can be cured	1.36	0.638	Poor
3	diabetes is the lack of effective insulin in the body	1.36	0.638	Poor
4	Diabetes is hereditary disease	1.16	0.473	Poor
5	Diabetes means that glucose(blood sugar)is too high	1.20	0.500	Poor
6	Panaceas produce insulin	1.24	0523	Poor
7	A fasting blood sugar level is about (80–120)	1.20	0.500	Poor
8	Type II is non-insulin dependent	1.32	0.627	Poor
9	Shaking is a sign of high blood sugar	1.36	0.700	Poor
10	Confusion is a sign of high blood sugar	1.24	0.523	Poor
11	Sweating is a sign of high blood sugar	1.24	0.523	Poor
12	Behavioral change is a sign of high blood sugar	1.24	0.523	Poor
13	Frequent urination and thirst are signs of low blood sugar	1.40	0.707	Poor
14	Diabetes can damage kidneys	1.20	0.408	Poor
15	Diabetes can damage eyes	1.28	0.614	Poor
16	Diabetes can affect the sexual function	1.20	0.500	Poor
17	Diabetes can cause weight changes	1.36	0.700	Poor
18	It is good to feel well as general	1.12	0.332	Poor
19	Blood sugar cause worry to individual	1.16	0.374	Poor
20	Diabetes often causes poor circulation	1.12	0.332	Poor

Table 3: Overall assessment of the study sample by self-care responses

Rating	Overall assessment of self-care			
	Freq.	%	Overall M.s.	Ass.
Good self-care	1	4.0	1.24	Poor self care
Moderate self care	3	12.0		
Poor self care	21	84.0		
Total	25	100.0		

Poor (M.s. = 1–1.66), fair (M.s. = 1.67–2.33), and good (M.s. ≥ 2.34)

education, including food management, from health-care practitioners in order to help them to better understand treatment strategies and improve their quality of life.[7] Treatment strategies for type II diabetes are to prevent or delay complications and maintain quality of life. This requires control of glycaemia and cardiovascular risk factor management, regular follow-up, and, importantly, a patient-centered approach to enhance patient engagement in self-care activities.[12,13]

Materials and Methods

A descriptive study design (convenient) was used in order to achieve the study objectives. The study was conducted at diabetic center in Merjan Medical City. The sample of 50 patients was chosen from those who attend the diabetic center in Merjan Medical City, Hillah, Babil, Iraq. A questionnaire tool was constructed depending on literature review in order to achieve the objectives of the study, which consisted of three parts.

Part I: Interview sheet related to demographic characteristics of the patients. This part is collection of basic demographical data obtained from the patients such as age, gender, education social status, family type, occupation, residents, and economic details.

Part II: Knowledge about DM questionnaire which composed of 20 items measured on three levels (know, uncertain, and don't know).

Part III: Composed from 30 items about self-care of the patients. The questionnaire was presented to 11 experts in the area of competence to maintain the validity of the instrument. The reliability had been evaluated through applying Cronbach α for patient knowledge 20 items is (0.82), and self-care 30 items is (0.81). A statistical program such as SPSS (Statistical Package for Social Science, SPSS, IBM Company, Chicago, IL, USA) version 20.0 was used to analyze the data through descriptive data analysis that included frequencies, percentages, mean of score, and standard deviation as well as inferential analysis and chi-square.

Results

In the present study, the sample included 25 diabetic patients, with more than half of them being female (64%),

Table 4: Association between of patients knowledge and self-care

	Rating	Self-care			Total	χ^2	d.f	χ^2 crit.
		Poor	Fair	Good				
Patients knowledge	Low	21	3	1	25	23.88	4	3.25
	Moderate	6	4	2	12			
	High	4	5	4	13			
	Total	31	12	7	50			
	P value = 0.008 → HS							

aged (44.44±16.571) years; mainly, (80%) were married. In addition, 72% of them showed urban residency, as shown in [Table 1].

The results also revealed that the self-care patients with type II diabetes mellitus was (1.24) Poor level of self-care, as indicated [Tables 2 & 3]. Also, the study findings in [Table 4] indicated a significant association between patient knowledge and self-care at a *P*-value < 0.05.

Discussion

The findings of the study have been showing the distribution of the study participants by their demographical data in term of frequency and percentage. The diabetic patients' ages show that more than one third of sample ranged from 60 and older (64%). Concerning gender; in that female patients highly represented more than male patients.. This result agrees also with study conducted by Al-Mansour[12] at Al-Majmaah city in Saudi Arabia, which indicated that the majority of age groups at 50 and older and the most of them are female patients (53.3%). Concerning the level of education, the distribution of findings in the current indicated that samples were read and written (44%–52%), respectively, and this variable is very crucial in such studies due to its effect on the patient cognitive and perception and how they recognize the real prognosis of their disease condition and the follow-up and updating their information. This result agreed with study done by Mersal[13] in Egypt, which indicated that the highest percentages had basic educational level (read and write) [Tables 1–3].

Table 4 illustrates a highly significant difference between of the patients knowledge and self-care in the at $P < 0.01$. These results agree with the finding of the study by Gabish and Mohammed[14] in Baghdad, Iraq, which demonstrated a significant difference among the samples at *P* value (0.01).

Conclusion

The majority of patients with DM have a non-significant association between the patient knowledge and their clinical data at *P* value more than 0.05.

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Conflicts of interest

There are no conflicts of interest.

References

1. American Diabetes Association. Facilitating behavior change and well-being to improve health outcomes: Standards of medical care in diabetes—2020. Diabetes Care 2014;43:S48.
2. Abdulhakeem ZR, Odda AH, Abdulsattar SA. Relationship of serum ghrelin, amylase and lipase with insulin level in type 2 diabetes mellitus patients. Med J Babylon 2023;20: 71-6.
3. Raziani Y, Qadir SH, Hermis AH, Nazari A, Othman BS, Raziani S. *Pistacia atlantica* as an effective remedy for diabetes: A randomised, double-blind, placebo-controlled trial. Aust J Herbal Naturopathic Med 2022;118-24.
4. Graves H, Garrett C, Amiel SA, Ismail K, Winkley K. Psychological skills training to support diabetes self-management: Qualitative assessment of nurses' experiences. Primary Care Diabetes 2016;10:376-82.
5. Albadri AM, Al-Diwan JK. Effect of carbohydrate intake on glycemic control among adult patients with type 2 diabetes mellitus attending Diabetes and Endocrine Diseases Center in Babel, 2022. Med J Babylon 2023;20:41-7.
6. Al-Hchaim MHS, Hermis AH, Al-Mamoori HMK, Jawad JM, Al-Ashour IA. Self-efficiency of patients with diabetes on self-care at Al-Najaf Center for Diabetes and Endocrine disorders, Babylon, Iraq. Rawal Med J 2022;47:806-806.
7. Evert AB, Dennison M, Gardner CD, Garvey WT, Lau KHK, MacLeod J, *et al*. Nutrition therapy for adults with diabetes or prediabetes: A consensus report. Diabetes Care 2019;42: 731-54.
8. Rathi A, Patil BU, Raut A. Association of tuberculosis with diabetes and anemia: A hospital-based cross-sectional study from central India. Med J Babylon 2023;20:28-32.
9. Sun Y, You W, Almeida F, Estabrooks P, Davy B. The effectiveness and cost of lifestyle interventions including nutrition education for diabetes prevention: A systematic review and meta-analysis. J Acad Nutr Diet 2017;117:404-421.e36.
10. Baynest HW. Classification, pathophysiology, diagnosis and management of diabetes. J Diabetes Metab 2015;6: 541.
11. Protheroe J, Rowlands G, Bartlam B, Levin-Zamir D. Health literacy, diabetes prevention, and self-management. J Diabetes Res 2017;2017:1298315:1-3.
12. Al Mansour MA. The prevalence and risk factors of type 2 diabetes mellitus (DMT2) in a semi-urban Saudi population. Int J Environ Res Public Health 2020;17:7.
13. Mersal FA. Improving self care practice for adults with type 2 diabetes mellitus. Innov J Med Health Sci 2013;3: 93-101.
14. Gabish AM, Mohammed WK. Effectiveness of health education program for patient's physical self-concept and actual foot-care behavior in people with diabetes mellitus toward managing feet at endocrinology and diabetes center in Al-Rusafa sector. Indian J Public Health Res Dev 2018;9:1346-50.