Original Research

Assessment of Self-Management Behavioral Skill among Patients with Diabetic type II in Mosul City

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Abstract:

Background and objective:

Diabetes must be successfully controlled throughout life by adhering to a variety of self-management practices and working closely with healthcare professionals. the study aims to assess self-management behavioral skills among patients with diabetic type II in Mosul City.

Methodology:

A descriptive study design was conducted in Al-Wafaa Specialized Health Center for Diabetes and Endocrinology in Mosul to assess diabetic self-management behavior among patients with type II for the period from November 20, 2023 until February 15, 2024. A non-probability (purposive) sampling method was used to selected (383) patients. The data were collected through developed questionnaire based on the previous study. The data were collected through face-to-face intervention. Descriptive statistics were used by SPSS software version 26.

Results:

The study results showed that most of the participants sometimes adheres to healthy eating behaviors (10.80), and it showed that majority of the study sample members do not engage in physical activity to control diabetes, with mean rank (12.00), The highest of the study participant answer (never) regarding monitoring the blood glucose and medication adherence (8.80)

Conclusion:

The study concluded that the dietary behaviors of diabetic patients were moderate, while their behaviors regarding physical activity, adherence to prescribed medications, and monitoring blood sugar were weak.

Keywords: Diabetes mallets, self-management, behavior

Introduction:

Diabetes must be successfully controlled throughout life by adhering to a variety of self-management practices and working closely with healthcare professionals. Poor type 2 diabetes (T2D) control has been found to be widespread in Canada, the US, and Europe, with even higher rates among specialty practices that may be treating patients with more complex diseases. (Aronson et al., 2018)

One of the four main non-communicable diseases in the world, diabetes mellitus affects 9.3% of the population worldwide. In 2019, 463 million people between the ages of 20 and 79 had the disease, and its incidence is rising every year. (Nguyen et al., 2022, Allawi & Ahmed, 2023)

According to World Health Organization (WHO) estimates, about 346 million people globally suffer with diabetes. If nothing is done, this figure is probably going to more than double by 2030. Nearly 80% of diabetes-related deaths take place in low- and middle-income nations. (Shrivastava et al., 2013)

Diabetes mellitus (DM) is a long-term, progressive metabolic disease that is primarily caused by an absolute (Type 1 DM) or relative (Type 2 DM) lack of the hormone insulin. DM is characterized by hyperglycemia. Diabetes impacts almost every system in the body, mostly because of hyperglycemia's metabolic disruptions. This is especially true if long-term diabetes management isn't reaching its full potential. (Mishra et al., 2023), (Allawi & Ahmed, 2023b)

Diabetes is one of the most dangerous diseases in the world as well as the primary source of both short- and long-term health issues. (Organization, 2016) Though there is currently no cure for diabetes, individuals with the disease can manage their blood sugar levels to prevent complications and lead healthy lives by using anti-diabetic medications, lifestyle changes, and self-

management techniques. Both of these approaches are highly recommended. (Salvia & Quatromoni, 2023)

The definition of diabetes self-management (DSM) is the way individuals with the disease take care of themselves. It includes the skills, attitudes, and actions necessary to preserve one's own health and avoid long-term problems from diabetes. (Liu et al., 2023) DSM aims to maintain personalized targets for glycemic control by optimizing medication taking behaviors, self-monitoring of glucose, and complete lifestyle behaviors such as dietary management, physical activity, and weight management. (Nguyen et al., 2022) the study aims to assess self-management behavioral skills among patients with diabetic type II in Mosul City.

Methodology:

A descriptive study design was conducted in Al-Wafaa Specialized Health Center for Diabetes and Endocrinology in Mosul to assess diabetic self-management behavior among patients with type II for the period from November 20, 2023 until February 15, 2024. A non-probability (purposive) sampling method was used to selected (383) patients with diabetic type II who aged 20 or mor years old. The data were collected through developed questionnaire based on the previous study (Dai et al., 2023). It consists of two parts: part one focus on patient's demographic variables includes, age, gender, educational level, occupation, marital status, Period of type 2 diabetes, and family history. Part two focus on self-management skill includes, nutritional behaviors (5 items), physical activity (5 item), and monitoring blood sugar medication adherence (5 items). The patient's response is consisted: always (3), sometimes (2), never (1). The data were collected through face-to-face intervention. Descriptive statistics were used by SPSS software version 26, with frequency, percentage, and inferential statistics (non-parametric statistic)

Results:

Table (1): Distribution of the study sample according to their demographic viables.

information	Categories	F	%
Age	20-29 years	14	4
	30-39 years	19	5
	40-49 years	70	18
	50-59 years	130	34
	60 Years or more	149	39
Sex	Male	178	47
	Female	204	53
Marital Status	Single	8	2
	Married	303	79
	Divorced	4	1
	Widower	67	18
Educational level	Does not read write	141	37
	Reads and writes	80	21
	Primary	77	20
	High school	58	15
	University	26	7
Occupation	Government employee	23	6
	Private sector employee	49	13
	Unemployed	55	14
	Retired	64	17
	Housewife	191	50
Family history of diabetes	Yes	205	54
	No	177	46
Period of type 2 diabetes	less than one year	47	12
	1 - 5 years	152	40
	5 - 10 years	63	17
	More than 10 years	120	31

Table (2): Nutritional behavioral skills of the study sample in relation to self-management of diabetes.

	Always (3)		Sometimes (2)		Never (1)		Chi-square	P-value	Total		
	F	%	F	%	F	%			Mean Rank		
Q1	136	35.6	161	42.1	85	22.3	23.565	0.000	Always	Sometimes	Never
Q2	97	25.4	206	53.9	79	20.7	74.173	0.000			
									4.60	10.80	8.60
Q3	77	20.2	166	43.5	139	36.4	32.707	0.000			
									Chi-square=6.940		
Q4	75	19.6	217	56.8	90	23.6	95.597	0.000			
									P-value =0.025		
Q5	8	2.1	78	20.4	296	77.5	354.366	0.000			

Table (3): Physical activity behavioral skills of the study sample related to self-management of diabetes.

	always (3)		sometimes (2)		never (1)		Chi-square	P-value	Total		
	F	%	F	%	F	%			Mean Rank		
Q1	27	7.1	222	58.1	133	34.8	149.691	0.000	Always	Sometimes	Never
Q2	0	0	19	5.0	363	95.0	309.780	0.000			
Q3	3	0.8	60	15.7	319	83.5	445.513	0.000	4.60	7.40	12.00
Q4	192	50.3	110	28.8	80	20.9	52.796	0.000	Chi-square=6.980		
Q5	1	0.3	15	3.9	366	95.8	671.785	0.000	P-value =0.031		

Table (4): Behaviors of the study sample in monitoring of blood glucose and medication adherence.

	Always (3)		Sometimes (2)		Never (1)		Chi-square	P-value	Total		
	F	%	F	%	F	%			Mean Rank		
Q1	119	31.2	143	37.4	120	31.4	149.691	0.000	Always	Sometimes	Never
Q2	191	50.0	172	45.0	19	5.0	309.780	0.000			
Q3	80	20.9	229	59.9	73	19.1	445.513	0.000	7.00	8.20	8.80
Q4	23	6.0	66	17.3	293	76.7	52.796	0.000	Chi-square=0.420		
Q5	78	20.4	48	12.6	256	67.0	671.785	0.000	P-value =0.811		

Discussion:

The results of the study showed that most of the participants were over 60 years old (149), (39%), most of them were women (204), (53%), and the majority of them were married (303), (79%), while more than a third of them neither read nor wrote (141), (37%). The majority of participants were women who work as housewives (50%), followed by those unable to work (14%), and the study indicated that 40% of them had diabetes for a period of 1-5 years, more than half (67%) of them do not suffer from any chronic diseases except diabetes, and most of them suffered from diabetes complications (91%), and the majority of participants did not use insulin (59%).

The results of the study indicated that there was a statistically significant difference between the dietary behaviors for self-management of diabetes among the study participants at (P-value = 0.05) accompanying the (Chi-square) test, which amounted to (0.025), It showed that most of the study sample sometimes adheres to healthy eating behaviors (10.80), while (8.60) mean rank of them were not committed to healthy nutrition, and those who are completely committed to dietary behaviors are the lowest (4.60).

An essential part of managing diabetes is medical nutrition therapy. Several dietary and lifestyle recommendations that support good eating habits have been developed to attain ideal blood pressure, cholesterol, and glucose levels in order to postpone or avoid the problems of diabetes. Previous observational studies that included a variety of

diets, including the Mediterranean diet, the Dietary Approaches to Stop Hypertension (DASH) diet, and the alternative Healthy Eating Index, found that dietary habits were mirrored in data on food intake. (AHEI). These diets are known to lower the risk for chronic diseases. (Salvia & Quatromoni, 2023, Ley et al., 2014)

According to a prior study conducted in Indonesia, dietary practices were found to be moderate in all areas (identifying calorie requirements, selecting nutrient-dense meals, organizing mealtimes, and managing the complexity of dietary behavior). Previous study has yielded mixed findings since cultural environment might influence the dietary habits of diabetics (e.g., increased consumption of sweets, grains, and salt intake), which can be challenging to avoid. (Kurnia et al., 2022)

The results of the study indicated that there was a significant difference between the physical activity behaviors skills for self-management of diabetes among the study participants at (P-value = 0.05) accompanying the (Chi-square) test, which amounted to (0.031), It showed that majority of the study sample members do not engage in physical activity to control diabetes, with mean rank (12.00) ,While those who engage in physical activity sometimes (7.40) on the other hand (4.60) mean rank are always engage in physical activity to control their disease.

A previous study carried out in India found that 78.9% of participants thought exercise was crucial for managing their diabetes. Although 54.7% of participants weekly participated in regular physical activity, men (63.6%) and those with an intermediate (60%) or advanced (65.2%) level of physical activity were more likely to do so. (Sánchez et al., 2019)

The results of the study showed that there were no statistically significant differences between the participants' behaviors regarding monitoring blood sugar for the purpose of controlling diabetes at the level of (P-value = 0.05) associated with the (Chi-square) test, which amounted to (0.811), which is more than (0.05). The highest of the study participant answer (never) regarding monitoring the blood glucose and medication adherence (8.80),

and the second level (8.20) answer (sometimes) while (7.00) mean rank of them told (always).

A previous study found that the medication adherence rate among patients with diabetes type II was 67.1%. its poor medication adherence. (10m)

A study in Ethiopia showed that the majority of participants had no blood sugar control due to poor adherence to the prescribed medication regimen, poor regular blood sugar monitoring, and poor knowledge and practice of successful self-management. (Wabe et al., 2011)

Conclusion:

The study concluded that the dietary behaviors of diabetic patients were moderate, while their behaviors regarding physical activity, adherence to prescribed medications, and monitoring blood sugar were weak.

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