ISSN: 1343-4292
Volume 140, Issue 01, April, 2022

Assessment the type II diabetic patients' self-care practices needs. in Al-Hilla City, Iraq

Salim K. Hajwal[1*], Salma K. J.[2]

Nursing Department, Al-Mustaqbal University College, 51001 Hillah, Babil, Iraq[1]
Ph.D. Family and Community Health Nursing In 2College of Nursing, University of Babylon, Babil, Iraq[2]

Corresponding Author: 1*

ABSTRACT— Diabetes mellitus (DM) is a globally epidemic metabolic disorder with a global prevalence of 8.4%, with the highest levels (9.2%) reported in the Middle East region. This high prevalence is expected to continue rising in the future. The aim of this study was to assess the type II diabetic patients' self-care practices need. A quasi-experimental design was used to conduct the study. The investigator develops the program and instruments to accomplish the study's objectives. A sum of 50 patients were purposely selected (50) patients who were exposed to sample. The validity of the instrument was assured through a board of experts, and the instrument's reliability was established through making pilot study which. The data was analyzed throught using descriptive and inferential statistics for the Knowledge 20 items 0.82. Self-care 30 items 0.76. 0.81. That considered acceptable result as instrument stability. The study findings indicated that illustrated the level of knowledge on the sample showed that certain groups at the pre- test whih period accounted to poor level at all studied items (M.s.= 1-1.66) except the first item for which the responses were fair knowledge (M.s.=1.67-2.33). The majority of patients with diabetes mellitus have a knowledge deficit, and patients also have a knowledge deficit when it comes to self-care. The community and non-governmental groups can be used to raise broad public awareness of this hazardous and chronic condition. Encourage patients to follow up and keep their knowledge level up to date in order to avoid the most complications.

KEYWORDS: Assessment, Type II Diabetic, Patients' self care

1. INTRODUCTION

Diabetes mellitus is a complex and difficult condition that necessitates daily self- management decisions by the diabetic. DSME addresses the holistic blend of clinical, psychosocial, educational, and behavioral aspects of care required for daily self- management and lays the groundwork for all people with diabetes to navigate their daily self-care with confidence and better results [1]. Type II diabetes begins with insulin resistance, a condition in which cells fail to respond to insulin properly. As the disease progresses, a lack of insulin may also develop. This form was previously referred to as "non-insulin-dependent diabetes mellitus (NIDDM) or adult-onset diabetes". The most common cause is a combination of excessive body weight and insufficient exercise [2]. The increase of cases among adult so incrusted in mortality and morbidity led the researcher to select this topics. In 2015, approximately 5.0 million people were estimated to have died from diabetes. Poor glycemic control is the most determinant of diabetes-related complication and death. The percentage of patients whose blood glucose level is not well controlled remains high. Many studies are conducted to identify the determinants of poor glycemic control at the diabetes clinics [3]. The focus of this special issue is on recent advances in our knowledge of diabetes - related complications, including the underlying molecular pathways, new diagnostic technologies to aid early detection, and innovative treatment choices. It comprises of 20 articles that address five different topics. Diabetic problems:

epidemiology and pathophysiology, microvascular issues, macrovascular difficulties, other complications, and possible treatments There is mounting evidence that specific genetic and epigenetic alterations, dietary variables, and a sedentary lifestyle are all involved in the etiology of diabetes problems [4]. The ascending trend of the number of diabetic patients increases the need to improve both the treatment and care. The fact that the disease treatment and its association factors are very complex again further increases the need for patient education and medical supervision [5].

Diabetes self-management education (DSME) is a cornerstone for optimal diabetes care, according to the American Diabetes Association (ADA). 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 [6]. People with diabetes require reinforcement of diabetes 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 [8].

2. Methodology

A quazi experimental paradigm was used in order to achieve the study's objectives, with the investing of preliminary which initiated for the period from November 27th 2020 to April 1th 2022. the study was conducted at diabetic center in Merjan Medical City. The sample was chosen from (50) s who attend the diabetic center at the time of the study period who worked in diabetic center, and data was collected using two study tools [questionnaire and demographic data]. a questionnaire tool was constructed in order to achieve the objectives of the study, consisted of (2) 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, economic and clinical data. Part II: Knowledge about diabetes mellitus questionnaire which composed of (20) items measured on three level (know, uncertain and don't know). Validity: The questionnaire was presented to (11) panel of experts in the area of competence to maintain the validity of the instrument. Reliability of the questionnaire Items: The reliability had been evaluated through applying Cronbach's Alpha for (20) items, the results was before (0.82) and after (0.86) at ($p<0.001$). A statistical program such as SPSS (Statistical Package for Social Science) version 20 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, T-test and chi-square. Knowledge Questionnaire Scores:

$\sum xi$ = sum of the "1x Don't know + 2x Uncertain + 3 x Know" for items.

(1) Average (M.s. = 1-1.66) is considered Poor Knowledge.

(2) Average (M.s. = 1.67-2.33) is considered Fair Knowledge.

(3) Average(M.s.≥2.34) is considered Good Knowledge.

3. RESULTS

Table 1: Descriptive Statistics of Demographic Data of Sample. N=25

Demographic Characteristic	**Clusters**	**Study Groups**	
		F.	**Perc**

ISSN: 1343-4292
Volume 140, Issue 01, April, 2022

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**
	Urban	**18**	**72.0**

Residents	**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**
BMI	**Underweight (<18.5)**	**0**	**0.0**
	Normal (18.5-24.9)	**8**	**32.0**
	Overweight (25-29.9)	**17**	**68.0**
	Total	**25**	**100.0**
Smoking status	**Non**	**13**	**52.0**
	EX-smoker	**5**	**20.0**
	Smoker	**6**	**24.0**
	Passive Smoker	**1**	**4.0**
	Total	**25**	**100.0**
History of food allergy	**Yes**	**2**	**8.0**
	No	**23**	**92.0**
	Total	**25**	**100.0**
Family history of DM	**Yes**	**19**	**76.0**
	No	**6**	**24.0**
	Total	**25**	**100.0**
Duration of disease	**<6 months**	**2**	**8.0**
	6-12 months	**3**	**12.0**
	>1 year	**20**	**80.0**
	Total	**25**	**100.0**

F= Frequency % percentage

The table indicates the Demographic Data of the study participants in term of frequency and percent of both groupss. The age of diabetic patient show that more than one third of study and the Control Group sample ranged from 60 and older. About gender presents that female percent is high in study and Control Groups, which is 64 %. and 56 %. of the total, orderly. Concerning the educational level, the distribution of findings in the study and Control Groups as read and write (44%, 52%) respectively. Dealing with marriage status, both groupss were married and have (80% for control and 64% for study) from nuclear families. More than one third of participants in the Control and study Group were employed, it constituted (36% and 32%)

ISSN: 1343-4292
Volume 140, Issue 01, April, 2022

respectively. Both groups study and control residents in urban areas and make not enough income or fund. Majority of patients in both groupss with overweight body mass index (68% and 56%, respectively) and non-smoking study (52%) and Control Groups (68%) without history of food allergy for study (92%) and Control Groups (80%). Patients who participate in the current study had a family history for D.M. for both study and Control Groups s (76% and 64% respectively). Regarding the duration of disease, they had more than one year as a duration of diabetes mellitus for Study Groups (80%) and the Control Groups (68%).

Table 2: Patients Responses of Sample Regarding to Knowledge of Type II Diabeties Mellitus

	Itemes	M.s.	SD	Ass.
1	Diabetes is a serious disease	2.00	0.913	Fair
2	Diabetes can be cured	1.36	0.638	Poor
3	diabetes is the deficiency of insulin in body	1.32	0.627	Poor
4	Diabetes is hereditary disease	1.20	0.500	Poor
5	Diabetes means that glucoseis too high	1.20	0.577	Poor
6	Panaceas produce insulin	1.28	0.614	Poor
7	A fasting blood sugar level is about (80-120)	1.24	0.523	Poor
8	Type II is non-insulin dependent	1.24	0.597	Poor
9	Shaking is a sign of in elevation blood sugar	1.28	0.614	Poor
10	Confusion is a indication of high blood sugar	1.20	0.500	Poor
11	Sweating is a signal of high blood sugar	1.20	0.500	Poor
12	behavioral change is a symptom of hyperglycemia	1.20	0.500	Poor
13	Urinating more often and thirst are signs of hypoglycemia	1.24	0.597	Poor
14	Diabetes can damage kidneys	1.36	0.638	Poor
15	Diabetes can damage eyes	1.28	0.614	Poor
16	Diabetes can affect the sexual function	1.24	0.597	Poor
17	Diabetes can cause weight changes	1.28	0.614	Poor
18	It is good to feel well as general	1.08	0.277	Poor
19	blood sugar cause worry to individual	1.08	0.277	Poor
20	Diabetes often causes poor circulation	1.04	0.200	Poor

Findings illustrated the level of knowledge on the sample showed that certain groups at the pre-test whih period accounted to poor level at all studied items (M.s.= 1-1.66) except the first item for which the responses were fair knowledge (M.s.=1.67-2.33).

Table 3: Overall Assessment Level of Knowledge of Participants

Level of Knowledge	F.	%	Overall M.s.	Ass.
Poor Knowledge	23	92.0	1.26	Fail Knowledge
Fair Knowledge	1	4.0		
Good Knowledge	1	4.0		
Total	25	100.0		

Findings show that the majority of the answers of participants related to knowledge at the Pre-test are fail level with a ms-= 1.26.

4. DISCUSSION

The findings of this study has been showen the distribution of the study participants by their demographical data in term of frequency and percentage (study versus control). The diabetic patients ages show that more than one third of study Group and Control Group sample ranged from 60 and older, concering gender female are highly represented in both Control and study Groups, accounting for 64 percent and 56 percent of the total. Though the design of the study affected this results the age groups most affected showed the old age are more influenced, female and their predominate might be existed by chance only as it is well known that most cases of diabetes are among the males. this result agrees also with study obtained by [9] at Al-Majmaah city in Saudi Arabia, which indicates that the majority of age groups at 40 and older and the majority of them are female (34.9%, 53.3%) respectively for control and Study Groups. Concerning the level of education, the distribution of findings in the current indicated that study and Control Groups were read and write (44%, 52%) respectively, this variable is very crucial in such studies due to it's 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 agree with study done by [10] in Egypt, which indicates that the highest percentages had basic educational level (read and write) for both groupss.

According to status of marriage, both study and Control Groups s were married and constituted (80% and 64%) orderly from nuclear family. The majority of findings participants for Study Groups and Control Groups were employee, it constituted (36% and 32%) respectively. Both groups study-control residents in urban areas and experience not enough economic state. Majority of them in both groups with overweight body mass index and nonsmokers without history of food allergy and both of groupss had family history of D.M. and more than one year as a duration of diabetes mellitus, many risk factors can considered as predisposing that may contribute to such chronic conditions, each of those variables may enhance the the ability of the patient to improve or minimize the effect of the illness or it might not and cause burden on him an example if of this a patient is supported by the family and having a member who look after him or her regarding their diet, medication, others like the instrument used to measure the blood sugar with the kits and assesstive devices, the health care team and specially nurses are called to search the patient history to support or reject the assumption of the family running the same condition, other medical data which is directly associated with diabetes mellitus such as the weight abnormalities, history of smoking and allergy. Also this results came in consistent with a results similar to a study done by [9], at Al-Majmaah city in Saudi Arabia, which presented that most the two groupss (36.3%, 63.7%) were married, and highest percentages had employee and more residence of them were in urban, majority of them were low monthly income, BMI were overweight (42.3%, 57.7%) for both groupss, smoking status were non-smoking for two groupss, more of them had family history of DM for both groupss, and finally; the majority duration of DM

for study and control were (more than 1 year).

The research revealed that there were poor results in the responses of the study for all items. However for the item (Diabetes is a serious disease) the responses were fair knowledge, and showed that the high percentage of subjects' responses at pre-test are poor knowledge for study. It has been shown that low sample size and the sampling procedure (purposive) has an impact on the knowledge of the study. The study did not receive any kind of information. On the other word, using purposive sampling techniques lead to select patients who need to strengthen their information because their knowledge is at poor level. These results are supported by the results of the study by [10] which showws that the majority of patient's knowledge items was poor knowledge on the pre-test for the control sample response group. However, [11] found that the syudy in his study had moderate to good level of knowledge in the sample (Table 2 and 3).

5. CONCLUSION

The majority of patients with diabetes mellitus have a knowledge deficit, and patients also have a knowledge deficit when it comes to self-care.

6. RECOMMENDATIONS

The community and non-governmental groups can be used to raise broad public awareness of this hazardous and chronic condition. Encourage patients to follow up and keep their knowledge level up to date in order to avoid the most complications.

7 ACKNOWLEDGEMENT

Grateful thanks and gratitude are extended to Al-Mustaqbal University College for the provided support. The authors would like to express our special thanks to the faculty members at Nursing Department.

8. REFERENCES

[1] American Diabetes Association. 5. Facilitating behavior change and well- being to improve health outcomes: Standards of Medical Care in Diabetes— 2020. Diabetes Care. 2020 Jan;43(Supplement 1):S48-65.

[2] American College of Sports Medicine. ACSM's guidelines for exercise testing and prescription. Lippincott Williams & Wilkins; 2013 Mar 4.

[3] World Health Organization (WHO): "Diabetes Fact sheet N°312". October 2013. Retrieved 25 March 2014

[4] Papatheodorou K, Papanas N, Banach M, Papazoglou D, Edmonds M. Complications of diabetes 2016. Journal of diabetes research. 2016 Oct 16;2016.

[5] American Association of Diabetes Educators. An effective model of diabetes care and education: revising the AADE7 Self-Care Behaviors®. The Diabetes Educator. 2020 Apr;46(2):139-60.

[6] Protheroe J, Rowlands G, Bartlam B, Levin-Zamir D. Health literacy, diabetes prevention, and self-management. Journal of diabetes research. 2017 Jan 10;2017.

[7] Masharani U, German MS. Pancreatic hormones and diabetes mellitus. Greenspan's basic & clinical endocrinology. 2011;8.

[8] Mamo Y, Bekele F, Nigussie T, Zewudie A. Determinants of poor glycemic control among adult patients with type 2 diabetes mellitus in Jimma University Medical Center, Jimma zone, south west Ethiopia: a case control study. BMC endocrine disorders. 2019 Dec;19(1):1-1.

[9] Al Mansour MA. The prevalence and risk factors of type 2 diabetes mellitus (DMT2) in a semi-urban Saudi population. International journal of environmental research and public health. 2020 Jan;17(1):7.

[10] Mersal FA. Improving self-care practice for adults with type 2 diabetes mellitus. Innovative journal of medical and health science. 2013;3:93-101.

[11] Bett SJ. Effectiveness of Educational Intervention on Diabetic Knowledge & HbA1c Levels on Kenyan Adults with T2DM. Andrews University; 2019.

[12] Castaneda C, Layne JE, Munoz-Orians L, Gordon PL, Walsmith J, Foldvari M, Roubenoff R, Tucker KL. & Nelson, ME (2002). A randomized controlled trial of resistance exercise training to improve glycemic control in older adults with type 2 diabetes. Diabetes care.;25(12):2335-41.

[13] Chiwanga FS, Njelekela MA. Diabetic foot: prevalence, knowledge, and foot self-care practices among diabetic patients in Dar es Salaam, Tanzania–a cross-sectional study. Journal of foot and ankle research. 2015 Dec;8(1):1-7.

[14] Colberg SR, Sigal RJ, Fernhall B, Regensteiner JG, Blissmer BJ, Rubin RR, Chasan-Taber L, Albright AL, Braun B. Exercise and type 2 diabetes: the American College of Sports Medicine and the American Diabetes Association: joint position statement. Diabetes care. 2010 Dec 1;33(12):e147-67.

[15] Dall TM, Yang W, Halder P, Pang B, Massoudi M, Wintfeld N, Semilla AP, Franz J, Hogan PF. The economic burden of elevated blood glucose levels in 2012: diagnosed and undiagnosed diabetes, gestational diabetes mellitus, and prediabetes. Diabetes care. 2014 Dec 1;37(12):3172-9.