ORGINAL ARTICLE

Family Medical History (Knowledge, Attitude) and Management Practices of Diabetes Patients Attending Medical Out Patient Department in Federal Capital Territory Abuja

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Abstract

Objective: The study assessed the knowledge, attitude and management practices of diabetes patients attending medical out-patient department in Federal Capital Territory Abuja.

Materials and Methods: A total of 120 randomly selected respondents between 18 - 65 years were assessed using standard methods in a cross-sectional survey involving the use of validated semi-structured questionnaires.

Results: The findings revealed that 60% of patients were without health insurance despite the fact that they are educated; 53% have been diagnosed and began their treatment between 2 and 5 years. For the knowledge indicators, 50% of the patients know two types of diabetes, 35% were able to list two types of diabetes while 56.70% could not list any type of diabetes. Attitude assessment among the diabetic patients revealed that 79.17%, 62.50%, 68.33% and 51.67% visit a physician; do monitor their blood glucose, have altered their eating habit and agreed that sedentary lifestyle is not good respectively; 41.67% of the respondents read health materials. In the area of lifestyle, changes made by the diabetic patients include check-up (3.33%), diet (18.33%) and exercise (20.00); 40.00% and 14.17% made a combination of two and three lifestyle changes respectively. Majority of the respondents do have their blood glucose level checked monthly.

Conclusion: Based on the research findings, the diabetic patients' knowledge, attitude and dietary practices are contributing factors to their high fasting blood glucose and poor nutrition status.

Keywords: Knowledge, Attitude, Practices, Management, Diabetes, Out-patients

Introduction

Diabetes mellitus, a disease that deals with the chronic metabolic disorder of carbohydrate, lipid and protein by event of inappropriate either the discharge and or action of insulin (1,2). In sub-Saharan region, diabetes being a non-communicable

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disease has grasped a well pronounced impact especially in the African most populous nation- Nigeria. A lot of individuals are afflicted and suffer from a reduced life quality and expectancy. An extra load burden do accompany diabetic persons and their relatives, particularly for the most patients with no access to excellent health care (3).

Diabetics can have a healthy lifestyle if they can adhere to consuming healthy meals and snacks, delight in regular physical exercise, monitor their blood glucose, targeting for a healthy body weight, making use of diabetes prescriptions as prescribed by the doctor and handling stress effectually together with keeping the levels of blood glucose within the acceptable range set by the healthcare worker. Good diabetes care can delay the onset of diabetic morbidities. The chances of developing diabetes complications can be reduced by having regular visits of the diabetes care team, clinician, dentist and related health cares (4).

Reports on the knowledge, attitude as well as adjustment of lifestyle practices in patients of type 2 diabetes are insufficient (5,6). Lifestyle modification is one of important factor in the type 2 diabetes mellitus management. The self-management is safe and very useful in diabetes control worldwide. (5).

One of the bases of diabetes management is nutritional management. Different nations and regions have extensively variable cultures and socioeconomic status impact and dictate dietary habits. Although there is solid proof for nutritional requirements in young people, the scientific evidence base for various parts of diabetes dietary management is fragile and often anecdotal. Thus, understanding the needs of individual as well as pragmatism are most useful for effective dietary counselling (7). Nutritional intervention in type 1 and 2 diabetes focused on improving glycemic control via food coordination, insulin doses and physical exercise; and improved glycemic and lipid levels and weight loss when essential respectively. Hence, the study aimed to assess the knowledge, attitude and management practices of diabetes patients attending medical out- patient department in Federal Capital Territory Abuja

Materials and Methods

Research design

The investigation was cross-sectional, comprising gathering of medical and dietary history as well as the management of the ailment.

Study area

The examination was done (in the year 2017) in phase 1, Abuja downtown area containing Asokoro, Maitama and Wuse; with scope 9.07°N and longitude 7.48°E and 7,753.9 Sq. Km territory; populace of 3,100,000 (NPC, 2016 projected gauge).

Study population

Type 2 diabetic adults male and female in 18-65 years were included in the research. The diabetes confirmation was done using FBG ≥ 126mg/dl or 2hpp ≥200mg/dl 0r HbA1c ≥ 6.5% and Insulin: 2.1 – 10.4 uIU/ml as benchmark.

Sample size

The sample size (n) was derived using the Dobson's formula (8)

$n= t^{2}\frac{(pXq)}{d^{2}} = 120$

Where t= Confidence interval at 95% (1.96); p= prevalence rate (8.5% of 0.085) (8)

q= 1-p (1-0.085 =0.915); d = desired level of significance (0.05)

With a no response case of 7.5%, and design defect at 1.0,

Sample size ≈ 130

Sampling

A list of all the secondary health facilities in Asokoro, Maitama, and Wuse districts of Abuja phase 1 was generated. One facility was then randomly selected per district using a random number generator (www. randomnumbergenerator.org). The quantity of subjects per wellbeing office was resolved

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utilizing a likelihood corresponding to measure strategy. The sort 2 diabetic subjects required per wellbeing office were chosen from the facility register of diabetic patients utilizing precise arbitrary testing.

Field data collection

A semi-structured (pretested) and then validated questionnaire was used to collect information of the respondents' knowledge, attitudes and practices towards management of diabetes.

Statistical analysis

All data were analyzed using Statistical Package for Social Science (SPSS) version 23 and presented as absolute numbers, frequency and percentages. Data were also presented in Tables and Figure.

Ethical considerations

The approval (ABUTH/HREC/CL/05/2019) of the study was obtained from Human Research and Ethical Committee, Ahmadu Bello University Teaching Hospital (ABUTH) Zaria and Federal Capital Development Agency (FCDA) Health Secretariat in the wake of following their technique. Wellbeing office endorsement was looked for from the top of every wellbeing office required in the wake of getting moral endorsement. Educated assent was acquired from the sort 2 diabetic patients ready to take an interest in the examination

Results

The medical history of type 2 diabetic patients in the study population shown in table 1 indicated that 60% of the patients are without health insurance despite the fact that they are educated. Also, 53% have been diagnosed and began their treatment between 2 and 5 years. Out of the total respondents (120), 61 of them have family members that are diabetic with parents accounting for 49.18% followed by extended families with 36.07%. Eye problem accounts for the highest percentage of other medical complications suffered by these respondents (28.33%), followed by hypertension, waist/back pain (6.67% each); cardiovascular problem, obesity and ulcer (5% each)

Table 2 shows the knowledge indicators of type 2 diabetes, 50% of the patients know two types of diabetes, 35% were able to list two types of diabetes while 56.70% could not list

Table 1. Medical history of type 2 diabetic study population

Health insurance	Frequency	Percentages (%)
With Insurance	48	40.00
Without Insurance	72	60.00
Duration of diabetes treatment (Years)		
<2	36	30.00
2-5	51	42.50
6-10	21	17.50
>10	6	5.00
Undisclosed	6	5.00
Positive family history of diabetes		
Yes	61	50.80
No	59	49.20
Medical complications		
Retinopathy	34	28.33
Hypertension	8	6.67
Cardiovascular disease	6	5.00
Obesity	6	5.00
Stroke/Paralysis	4	3.34
Waist/Back pain	8	6.67
Unhealed wound	1	0.83
Arthritis	3	2.50
Foot ulcer	6	5.00
Sexual dysfunction	1	0.83
Others	6	5.00
Nil	37	30.83

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any type of diabetes. Respondents that listed only one lifestyle changes that can make diabetic live normal healthy lives were 1.70%, 20.80%, 0.80% and 11.70% each for check-up, diet drug and exercise respectively. Those who listed a combination of two lifestyle changes account for 47.50% while 12.50% listed three lifestyle changes, 5.00% did not list any.

Majority of the respondents (72.50%) do not know the safe maximum glucose level for diabetes, only 27.50% know the safe blood glucose level.

Obesity (35.83%), hypertension (20.00%), eye problem (5.00%) stroke (8.33%), cardiovascular problem (3.33%), sedentary lifestyle (1.67%), pancreatic disease (0.83%) etc. were some of the medical complications that can predispose to diabetes as listed by the respondents.

Positive attitude indicators of the study population

Assessment of the attitude among the diabetes patients as shown in Figure 1 revealed that 79.17%, 62.50%, 68.33% and 51.67% of the respondents visit a doctor, owned a glucometer, have altered their eating habit and agreed that sedentary lifestyle is not good respectively. Only 41.67 % of the respondents read health materials.

Management practices of type 2 diabetic patients attending medical outpatient department (MOPD) within Abuja metropolis

In Table 3 lifestyle changes made by the diabetic patients include check-up (3.33%), diet (18.33%), drug (0.00%) and exercise (20.00); 40.00% and 14.17% made a combination of two and three lifestyle changes respectively. Majority of the respondents check their blood glucose level on a monthly basis. Fifteen (12.50%) of the respondents exercise on a daily basis, 37.50% and 20.83% exercise on a weekly and monthly basis respectively, 27.50% rarely exercise while 1.67% never exercise. All respondents did not find check-up and drugs difficult to follow. However, diet (26.67%) and exercise (10.00%) were difficult to follow for the

Table 2. Knowledge of type 2 diabetic patients attending medical outpatient department (MOPD) within Abuja metropolis

Knowledge indicators		Frequency	Percentage (%)
List types of diabetes	Type I	6	5.0
	Type II	4	3.3
	Type I & II	42	35.0
	Nil	68	56.7
Lifestyle changes that can make diabetics live normal healthy life	Check-up & Drugs	3	2.5
	Diet	25	20.8
	Exercise	14	11.7
	Two above	57	47.5
	All	15	12.5
	Nil	6	5.0
Maximum blood glucose level that is safe for diabetes?	Correct	33	27.5
	Incorrect	12	10.0
	Not sure	75	62.5
Other medical condition that can predispose to diabetes	Stroke	10	8.3
	Hypertension	24	20.0
	Eye problem	6	5.0
	Obesity	43	35.8
	Sedentary lifestyle	2	1.7
	Not sure	27	22.5
	Memory loss	2	1.7
	Pancreatic disease	1	0.8
	Cardiovascular problem	4	3.3
	Kidney disease	1	0.8

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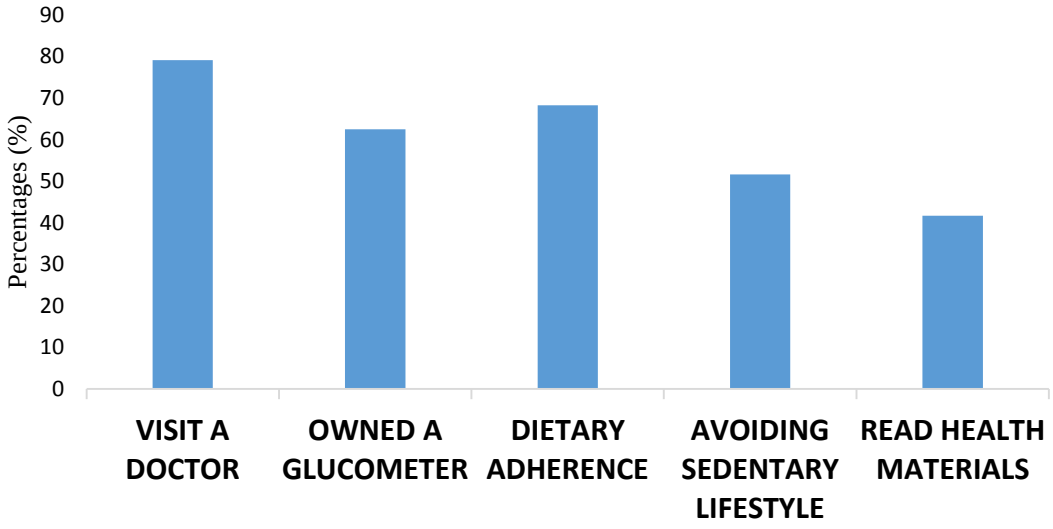


Figure 1. Positive attitude indicators of type 2 diabetic patients attending outpatient clinics in Abuja metropolis

respondents. Also, a total of 45 (37.50%) respondents have difficulty in following instruction on diet and exercise while only one respondent revealed that he finds it difficult to follow all the medical and nutritional advice.

Discussion

The present study focused on the knowledge, attitude and management practices of diabetes patients that attends medical out- patient department in Federal Capital Territory Abuja. The findings showed 61 (50.83%) positive

Table 3. Diabetes management practices among type 2 diabetic patients attending outpatient clinics in Abuja metropolis

Practice indicators		Frequency	Percentage (%)
Lifestyle changes after diagnosis	Check-up & Drugs	4	3.3
	Diet	22	18.3
	Exercise	24	20.0
	Two above	48	40.0
	All above	17	14.2
	None	5	4.2
Interval of blood glucose check	Daily	1	0.8
	Weekly	16	13.3
	Monthly	68	56.7
	Rarely	35	29.2
	Never	0	0.0
Interval of exercise	Daily	15	12.5
	Weekly	45	37.5
	Monthly	25	20.8
	Rarely	33	27.5
	Never	2	1.7
Medicals/nutritional advice difficult to follow	Check-up & Drugs	6	5.0
	Diet	32	26.7
	Exercise	12	10.0
	Two above	45	37.5
	All	15	12.5
	Nil	10	8.3

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family history of diabetes (as a family member of the respondents) having the highest percentage (49.18%); 51 (42.50%) have been diagnosed and under treatment 2 - 5 years; and 72 (60%) respondents have health insurance.

Studies have reported that patients' ability to care for themselves daily is very crucial to the management of diabetes mellitus, therefore, patient's education is always an essential element of diabetes mellitus management (9,10).

The result also revealed that respondents have some knowledge of diabetes. Knowledge is an essential component of diabetes (11). Therefore, people need to have knowledge of diabetes to be able to prevent and control as diabetes leads to morbidity and mortality.

The knowledge indicators showed that all the respondents know at least one type of diabetes, however, more than 50% of them (68) could not list the types of diabetes known to them and 63% of them (75) do not know the blood glucose level that is safe for diabetes; depicting poor knowledge of the respondents even though they claimed to know and could do list more than one type of diabetes; they as well knew the changes in lifestyle that could enhance a normal healthy life even though they are diabetic (12).

In terms of their diabetes management, the practices of the respondents showed that they had poor practices with 15 (12.5%) and 16 (13.3%) practicing daily exercise and weekly blood glucose check respectively. Exercise and or physical activity has been known to often improve glucose control and aid loss of weight, but has several other health profits even if they do not lead to change in weight and glucose control (13,14). Hence poor exercise can prevent improvement of health since physical activity can help achieve improved cardiorespiratory capability, increased physical activity, better glycemic control, reduced insulin resistance, enhanced lipid profile, blood pressure reduction and weight loss maintenance (15). Exercise help greatly in the type 2 diabetes management as it helps in the control of the blood glucose and improvement of the cardiovascular and respiratory system because it has been proven to be fundamental in the management of type 2 diabetes mellitus (T2DM) patients in line with improving glycemic control and explicitly boost cardiac function (16).

The knowledge of diabetes has been shown from research reports to be generally poor among diabetic patients from developed and developing countries (17,18). The assessment of the respondents in respect to dietary management revealed a poor and or low knowledge, attitude and practices which is consistent with the report of Ali et al. (19).

Diet can altogether effect on wellbeing and it is one of the way of life intercessions in the administration and treatment of people determined to have diabetes mellitus (25). A solid and sufficient eating routine should meet the body's energy need give at least all the necessary supplements. People experiencing T2DM may now and then be limited from specific food sources.

Conclusions

The knowledge, attitude and present management practices of the diabetic patients may have a negative effect on blood glucose and nutritional. There is need to research into compliance to medical and dietary instructions from health workers (diets, check-up, exercise and drugs) for improvement of health of diabetic patients.

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Conflict of Interest

Authors have declared that no competing interests exist

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References

1. World Health Organization. Screening for type 2 diabetes: report of a World Health Organization and International Diabetes Federation meeting. World Health Organization; 2003.
2. Piero MN, Nzaro GM, Njagi JM. Diabetes mellitus-a devastating metabolic disorder. Asian journal of biomedical and pharmaceutical sciences. 2015;5(40):1.
3. Fasanmade OA, Dagogo-Jack S. Diabetes care in Nigeria. Annals of global health. 2015;81(6):821-9.
4. CDA. Canadian diabetes association. type 2 diabetes: the basis. 112020 08-399 04/13. diabetes.ca. 1-800 Banting. 2013. (https:// diabetes.ca/)
5. Worku A, Abebe SM, Wassie MM. Dietary practice and associated factors among type 2 diabetic patients: a cross sectional hospital based study, Addis Ababa, Ethiopia. SpringerPlus. 2015;4(1):1-8.
6. Rohmawati N, Sulistiyani S, Yustiana N, Aryatika K, Turkadze T, Zalizar L. The knowledge, attitudes and behaviors of family influence diabetic mellitus diet's compliance among elderly. Annals of Tropical Medicine and Health. 2020;23:50-8.
7. Smart C, Aslander-van Vliet E, Waldron S. Nutritional management in children and adolescents with diabetes. Pediatric diabetes. 2009;10:100-17.
8. Ehiaghe AF, Ehiaghe JI, Ifeanyichukwu OM, Isioma IA, Ize-Iyamu JA, Ize-Iyamu LO. Socio-Economic Status and Hemoglobin Concentration of Type 2 Diabetes Mellitus Patients Attending Diabetic Clinic in Benin City, Nigeria. Open Journal of Pathology. 2013;3(04):139.
9. ADACPR. American Diabetes Association Clinical Practice Recommendations- ADACPR (2013). Standards of Medical Care for Patients with Diabetes Mellitus. Compliments of Diabetes Education Services, www.DiabetesEd.net. 2013;35: S11-S63.
10. Duke SA, Colagiuri S, Colagiuri R. Individual patient education for people with type 2 diabetes mellitus. Cochrane database of systematic reviews. 2009(1).
11. McPherson ML, Smith SW, Powers A, Zuckerman IH. Association between diabetes patients' knowledge about medications and their blood glucose control. Research in Social and Administrative Pharmacy. 2008;4(1):37-45.
12. WHO. World Health Organization: Obesity and overweight. Fact sheet no. 311, May 2012. Retrieved from WHO website: (http://www who int/mediacentre/factsheets/fs311/en/). 2012.
13. Al-Maskari F, El-Sadig M, Al-Kaabi JM, Afandi B, Nagelkerke N, Yeatts KB. Knowledge, attitude and practices of diabetic patients in the United Arab Emirates. PloS one. 2013;8(1):e52857.
14. Yanai H, Adachi H, Masui Y, Katsuyama H, Kawaguchi A, Hakoshima M, et al. Exercise therapy for patients with type 2 diabetes: a narrative review. Journal of clinical medicine research. 2018;10(5):365-9.
15. Sigal RJ, Armstrong MJ, Bacon SL, Boule NG, Dasgupta K, Kenny GP, et al. Physical activity and diabetes. Canadian journal of diabetes. 2018;42:S54-63.
16. Colberg SR, Sigal RJ, Yardley JE, Riddell MC, Dunstan DW, Dempsey PC, et al. Physical activity/exercise and diabetes: a position statement of the American Diabetes Association. Diabetes care. 2016;39(11):2065-79.
17. Verboven M, Van Ryckeghem L, Belkhouribchia J, Dendale P, Eijnde BO, Hansen D, et al. Effect of exercise intervention on cardiac function in type 2 diabetes mellitus: a systematic review. Sports medicine. 2019;49(2):255-68.
18. Al-Adsani AM, Moussa MA, Al-Jasem LI, Abdella NA, Al-Hamad NM. The level and determinants of diabetes knowledge in Kuwaiti adults with type 2 diabetes. Diabetes & metabolism. 2009;35(2):121-8.
19. Ardena GJ, Paz-Pacheco E, Jimeno CA, Lantion-Ang FL, Paterno E, Juban N. Knowledge, attitudes and practices of persons with type 2 diabetes in a rural community: Phase I of the community-based Diabetes Self-Management Education (DSME) Program in San Juan, Batangas, Philippines. Diabetes research and clinical practice. 2010;90(2):160-6.
20. Whittaker A, Dinu M, Cesari F, Gori AM, Fiorillo C, Becatti M, et al. A khorasan wheat-based replacement diet improves risk profile of patients with type 2 diabetes mellitus (T2DM): a randomized crossover trial. European journal of nutrition. 2017;56(3):1191-200.

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