Research Article

Knowledge of Diabetic Patients towards Diabetes Mellitus in a Sample of Patients Attending Diabetes and Endocrine Center

Khalidah Salman Saad[*]

Ministry of Health, Iraq

*Corresponding Author: Khalidah Salman Saad, Ministry of Health, Iraq, E-mail: cdcd_russafa@yahoo.com

Abstract

Background: Diabetes is a chronic disease that affects people and requires the continuation of medical treatment and follow-up, which is a widespread disease at all the time and places in the world.

Aims: To assess the knowledge level of participants towards diabetic mellitus and found any relation between variables.

Methods: A cross-sectional descriptive study was conducted in Diabetes and endocrine center in Baghdad for a period started from February 2018 up to July 2018. In this study (150) diabetic patients from different age categories, both males and females, were included in the study. The data analysis through descriptive and chi-square statistical analysis by using soft STATA version 13.

Results: The mean age of participants were 40.8 and SD 0.94 with 95% CI [39.0155-42.7310]. 52 (34.7%) in the age groups (40-49) years old, 86 (57.3%) were males, live in urban area were 128 (85.3%), employed 45 (30%), married 105 (70%), 38 (25.3%) were elementary school. Not statistically significant has been found between the type of diabetic and gender with the knowledge level toward diabetic.

Conclusions: Most participants had type II diabetes mellitus and family history; the participants had a moderate Knowledge levels towards diabetes. Significant association has been found between the knowledge level of diabetic with the age groups and type of therapy. Assist patient to determine amount of food, drink, or glucose tablets; also, education and guidance are provided to patients to identify risks for hypoglycemia and hyperglycemia and appropriately treat hypoglycemia to avoid unnecessary caloric intake and weight gain.

1. Introduction

Diabetes is a chronic disease that affects people and requires the continuation of medical treatment and follow-up, which is a widespread disease at all times and places in the world, and it seems to be a disease of the age, it is not an accidental disease or disease with specific causes and treatment is known and specific, it is a complex disease and difficult to identify and treat, Leaving the disease of economic burden on the patient or his family [1, 2]. The World Organization for diabetes estimates that there are 180 million people with diabetes worldwide, and that the number is likely to double by 2030 [3]. More than 80% of deaths occur in low- and middle-income countries. Half of the diabetes deaths are under the age of 70, of which 55% are women [4]. At least 60,000 children and adolescents are diagnosed annually with the first type of disease in the world, and this infection continues to rise by 3-5 each year. The number of people with diabetes in Iraq in 2000 was 668,000 and is expected to rise to 2,900,000 in 2030 year [5]. It is clear the diabetes and its complications are an effective health problem, social and economic development [6]. It is becoming more widespread day by day and is related to cultural progress [6]. A positive relationship in contrast to many of the diseases that scientific progress has been able to reduce or eliminate some of them permanently [7]. So, it has become a problem worthy of study and it is necessary to emphasize the need to face it at various levels of health, media and economic [8]. The aim study is to assess the knowledge level of participants towards diabetic mellitus and found any relation between variables.

2. Methods

A cross-sectional descriptive study was conducted in Diabetes and endocrine center in Baghdad for a period started from February 2018 up to July 2018. In this study (150) diabetic patients from different age categories, both males and females, were included in the study. The ethical clearance was obtained from this center and from each participant before starting to collect the data. The data was collected through a constructed questionnaire and direct interview for patients. The inclusion criteria were patient with type 1, or type 2 diabetes mellitus, age from 15 years to 75 years. Gestational diabetes, new registration (after starting the data collection), severe medical illness including physical mental handicaps were excluded from this study. The data analysis through descriptive and chi-square statistical analysis by using soft STATA version 13.

3. Results

One hundred and fifty participants included in this study at the mean age 40.8 and SD 0.94 with 95% CI [39.0155-42.7310]. The highest frequency of studied sample 52 (34.7%) in the age groups (40-49) years old, 86 (57.3%) were males, live in urban area were 128 (85.3%), employed 45 (30%), married 105 (70%), 38 (25.3%) were elementary school [Table 1].

Variables	Frequency [150]	Percent
Age groups		

(<20-29)	24	16.0
(30-39)	39	26.0
(40-49)	52	34.7
(50-60+)	35	23.3
Gender		
Male	86	57.3
Female	64	42.7
Residence		
Rural	22	14.7
Urban	128	85.3
Occupation		
Employee	45	30.0%
Earner	23	15.3%
Housewife	44	29.3%
Works free	27	18.0%
Student	11	7.3%
Marital Status		
Married	105	70.0%
Un married	25	16.7%
Separated	8	5.3%
Divorcee	12	8.0%
Education Level		
Not read or write	32	21.3%
read and write	20	13.3%
primary graduate	17	11.3%
medium-graduate	19	12.7%
elementary school	38	25.3%
University graduate and above	24	16.0%

Table 1: Characteristic of sample study.

Regard to type of diabetes, the highest frequency of studied sample 95 (63.3%) had type II diabetes mellitus and 55 (36.7%) had type I [Table 2]. Also, 107 (71.3%) of participants had family history of diabetes mellitus [Table 3]. According to level of knowledge, 84 (56%) of studied sample had moderate knowledge level for diabetic [Table 4]. In addition, there are a statistically significant has been found between the age groups, family history of diabetic and type of therapy with the knowledge level at the p. value <0.05 [Table 5].

Type of Diabetic	Frequency	Percent
Type I	55	36.7
Type II	95	63.3
Total	150	100.0

Table 2: Distribution of studied sample according to type of diabetic.

Family history	Frequency	Percent
Yes	107	71.3
No	43	28.7
Total	150	100.0

Table 3: Distribution of studied sample according to family history.

Knowledge Level	Frequency	Percent
Low (≤7)	28	18.7
Moderate (8-10)	84	56.0
High (11-14)	38	25.3
Total	150	100.0

Table 4: Distribution of studied sample according to knowledge level.

Variables	Knowledge Level			Total	
	Low (≤7)	Moderate (8-10)	High (11-14)		
Age groups					
(<20-29)	9	9	6	24	MCP <0.01 HS
	6.0%	6.0%	4.0%	16.0%	
(30-39)	8	25	6	39	
	5.3%	16.7%	4.0%	26.0%	
(40-49)	11	28	13	52	
	7.3%	18.7%	8.7%	34.7%	
(50-60+)	0	22	13	35	
	.0%	14.7%	8.7%	23.3%	
Gender					
Male	11	50	25	86	X2=5.008
	7.3%	33.3%	16.7%	57.3%	P>0.05 (NS)

Female	17	34	13	64	
	11.3%	22.7%	8.7%	42.7%	
Type of diabetic					
Type I	15	28	12	55	X2=4.271
	10.0%	18.7%	8.0%	36.7%	
Type II	13	56	26	95	P>0.05 (NS)
	8.7%	37.3%	17.3%	63.3%	
Family history					
Yes	14	63	30	107	X2=7.861
	9.3%	42.0%	20.0%	71.3%	P<0.05 (S)
No	14	21	8	43	
	9.3%	14.0%	5.3%	28.7%	
Type of therapy					
Diet	7	14	4	25	MCP 0.05>(S)
	4.7%	9.3%	2.7%	16.7%	
Diet and tablet	19	44	18	81	
	12.7%	29.3%	12.0%	54.0%	
Diet and insulin	2	26	16	44	
	1.3%	17.3%	10.7%	29.3%	

Table 5: Distribution of studied sample according to knowledge level by some variables.

4. Discussion

Advanced age, high body mass index and family history of diabetes mellitus emerged as risk factors in our study [9]. In this study found that (34.7%) of studied sample in the age groups (40-49) years old, compared with other results found in Italy 13.7% [10], in Denmark 16.5% [11]. It refers to the deterioration of the health situation in the country because of war experienced by the country, which led to the negligence of the health situation. Adult men also have higher risk for type 2 diabetes, an observation which has important clinical implications, particularly in the public health arena [12]. In our study found (57.3%) of cases were males, while in a study found in Italy 33.7% [13], in US 21.9% [14] and Ford 19.1% [15], this refers to the different customs and traditions between the two countries. The socio-demographic differences between groups dependent on the place of living did not exert a significant influence on the level of metabolic control of diabetes, the incidence of late complications or quality of life assessment in the population [16]. In the study we found that (85.3%) of cases living in the urban area, other results found in US 61.9% [17], in Ethiopia 37.4% [18], in Yemen 18.7% [19]. This refers to the difference in the economic level between countries and in turn leads to the desire of people to live in the rural than in the urban far from the noise and the problems of the urban area.

In this study, found that (30%) of studied sample were employed, other results found in Syria 66.5% [20]. This difference indicates the deteriorating situation in the country and the stay of people in homes for the lack of security in addition to the lack of job opportunities for young people because most of the current situation in the country. Also, found that (70%) of cases were married, while in another study found in French 34.7% [21], This is due to the different customs and religion between the two countries. Education has long been recognized as a vital and integral component [22]. According to results of this study found that (25.3%) of cases were elementary school compared with other results found in China 2.7% [23], in Mexico 17.8% [24], this indicate to different habits and cultural, educational level between the two countries.

Therefore, (63.3%) of cases with type II diabetes mellitus. other results found in Africa by Hall 44.8% [25], in Ethiopia by Nigatu 35% [26]. It refers to the difference in the family history of the disease. Familial (genetic and non-genetic) and psychological factors are significantly associated with the prevalence of type 2 diabetes in adulthood [27]. In this study found that (71.3%) had family history of diabetes mellitus compared with other results found in Korean by Fukuoka 17.6% [28], in Saudi by El Bcheraoui 51.1% [29], in Iran by Bianco 29.7% [30]. This difference is due to different traditions and customs between countries. Although diabetes-related knowledge has reached high levels, stagnant perceived risk suggests people at risk are not applying this knowledge to themselves [31].

In addition, (56%) of studied sample had moderate knowledge level. other results found in Iraq by Mansour 23.2% [32], in Jordan by Yacoub 77.4% [33] and by Abu-Qamar 67.9% [34]. This difference is due to the lack of development of the health situation in the country. In this study, found that 54% of cases follow the diet and tablet therapy compared with other results found in Ethiopia by Abebe 34.2% [35], in UK by Perquin 20.7% [36]. This difference is due to lifestyle and health between different countries.

6. Conclusions

Most participants had type II diabetes mellitus and family history; the participants had a moderate Knowledge levels towards diabetes. Significant association has been found between the knowledge level of diabetic with the age groups and type of therapy. Also, there is not significant association has been found between the knowledge level of diabetic and education. To need the health program which is improve the health situation support; through understanding the medication action and potential for adverse effects, with special attention to concomitant medications that affect glycemic control; Assist patient to determine amount of food, drink, or glucose tablets; also, education and guidance are provided to patients to identify risks for hypoglycemia and hyperglycemia and appropriately treat hypoglycemia to avoid unnecessary caloric intake and weight gain.

References

1. Knowler WC, Barrett-Connor E, Fowler SE, et al. Reduction in the incidence of type 2 diabetes with lifestyle intervention or metformin. N Engl J Med 346 (2002): 393-403.

2. American Diabetes Association. Standards of medical care in diabetes-2018. Diabetes Care 41 (2018): 1-159.

3. World Health Organization (2017).

4. Centers for Disease Control and Prevention. National diabetes statistics report (2017).

5. Mayer-Davis EJ, Lawrence JM, Dabelea D, et al. Search for Diabetes in Youth Study. Incidence trends of type 1 and type 2 diabetes among youths, 2002-2012. N Engl J Med 376 (2017): 1419-1429.

6. Gross JL, De Azevedo MJ, Silveiro SP, et al. Diabetic nephropathy: Diagnosis, prevention, and treatment. Diabetes Care 28 (2005): 164-176.

7. World Diabetes, Sanofi-Aventis Group, Merck and Co, Inc. prevalence, International Diabetes Federation Journal (3rd Edn.) (2006): 22-49.

8. Ministry of Health and Ministry of Planning and Development, Cooperation/Center Organization for Statistic and in Information Technology in Collaboration with WHO with the financial support of UNDG Iraq-Trust Fund Japanese contribution National Survey for Non-Communicable Diseases Risk factors Iraq (2006).

9. Duman NB. Frequency of gestational diabetes mellitus and the associated risk factors. Pak J Med Sci 31 (2015): 194-197.

10. Bruno G, Runzo C, Cavallo-Perin P, et al. Incidence of Type 1 and Type 2 Diabetes in Adults Aged 30-49 Years: The population-based registry in the province of Turin, Italy. Diabetes Care 28 (2005): 2613-2619.

11. Molbak AC, Christau B, Marner B, et al. Incidence of insulin-dependent diabetes mellitus in age groups over 30 years in Denmark. Diabet Med 11 (1994): 650-655.

12. Gale EA, Gillespie KM. Diabetes and gender. Diabetologia 44 (2001): 3-15.

13. Bruno G, Cerutti F, Merletti F, et al. Residual β-cell function and male/female ratio are higher in incident young adults than in children: The registry of type 1 diabetes of the province of Turin, Italy, 1984-2000. Diabetes Care 28 (2005): 312-317.

14. Vaccaro JA, Anderson K, Huffman FG. Diabetes Self-Management Behaviors, Medical Care, Glycemic Control, and Self-Rated Health in U.S. Men by Race/Ethnicity. Am J Mens Health (2015).

15. Ford ND, Narayan KM, Mehta NK. Diabetes among US-and foreign-born blacks in the USA. Ethn Health 19 (2015): 1-14.

16. Marta Dudzinska. Type 2 diabetes mellitus in relation to place of residence: Evaluation of selected aspectsof socio-demographic status, course of diabetes and quality of life-A cross-sectional study. Annals of Agricultural and Environmental Medicine 20 (2013): 869-874.

17. Oza-Frank R, Stephenson R, Narayan KM. Diabetes prevalence by length of residence among US immigrants. J Immigr Minor Health 13 (2011): 1-8.

18. Alemu S, Dessie A, Tsegaw A, et al. Retinopathy in type 1 diabetes mellitus: Major differences between rural and urban dwellers in northwest Ethiopia. Diabetes Res Clin Pract 109 (2015): 191-198.

19. Modesti PA, Bamoshmoosh M, Rapi S, et al. Relationship between hypertension, diabetes and proteinuria in rural and urban households in Yemen. J Hum Hypertens 27 (2013): 572-579.

20. Albache N, Al Ali R, Rastam S, et al. Epidemiology of Type 2 diabetes mellitus in Aleppo, Syria. J Diabetes 2 (2010): 85-91.

21. Detournay B, Bihan H, Eschwege E, et al. Impact of socio-economic position on health and quality of care in adults with Type 2 diabetes in France: The Entred 2007 study. Diabet Med (2015).

22. Australian Institute of Health and Welfare (AIHW). Diabetes: Australian Facts 2008. Diabetes Series No. 8. Cat. no. CVD 40. AIHW, Canberra, Australia (2008).

23. Teng W, Liu L, Chen K, et al. Prevalence and risk factors of diabetes and diabetic retinopathy in Liaoning province, China: A population-based cross-sectional study. PLoS One 10 (2015): 0121477.

24. Garcia AA, Brown SA, Horner SD, et al. Home-based diabetes symptom self-management education for Mexican Americans with type 2 diabetes. Health Educ Res (2015).

25. Hall V, Thomsen RW, Henriksen O, et al. Diabetes in Sub Saharan Africa 1999-2011: Epidemiology and public health implications. A systematic review. BMC Public Health 11 (2011): 564.

26. Nigatu T. Epidemiology, complications and management of diabetes in Ethiopia: A systematic review. J Diabetes 4 (2012): 174-180.

27. Li H, Isomaa B, Taskinen MR, et al. Consequences of a family history of type 1 and type 2 diabetes on the phenotype of patients with type 2 diabetes. Diabetes Care 23 (2000): 589-594.

28. Fukuoka Y, Choi J, Bender M, et al. Family history and body mass index predict perceived risks of diabetes and heart attack among community-dwelling Caucasian, Filipino, Korean, and Latino Americans- DiLH Survey. Diabetes Res Clin Pract (2015).

29. El Bcheraoui C, Basulaiman M, Tuffaha M, et al. Status of the diabetes epidemic in the Kingdom of Saudi Arabia, 2013. Int J Public Health 59 (2014): 1011-1021.

30. Bianco A, Pomara F, Thomas E, et al. Type 2 diabetes family histories, body composition and fasting glucose levels: A cross-section analysis in healthy sedentary male and female. Iran J Public Health 42 (2013): 681-690.

31. Piccinino L, Griffey S, Gallivan J, et al. Recent Trends in Diabetes Knowledge, Perceptions, and Behaviors: Implications for National Diabetes Education. US Health Educ Behav (2015).

32. Mansour AA, Wanoose HL, Hani I, et al. Diabetes screening in Basrah, Iraq: A population-based cross-sectional study. Diabetes Res Clin Pract. 79 (2008): 147-150.

33. Yacoub MI, Demeh WM, Darawad MW, et al. An assessment of diabetes-related knowledge among registered nurses working in hospitals in Jordan. Int Nurs Rev 61 (2014): 255-262.

34. Abu-Qamar MZ. Knowledge and practice of foot self-care among Jordanians with diabetes: an interview-based survey study. J Wound Care 23 (2014): 247-250, 252-254.

35. Abebe SM, Berhane Y, Worku A, et al. Diabetes mellitus in North West Ethiopia: A community based study. BMC Public Health 14 (2014): 97.

36. Perquin M, Michel GH, de Beaufort C, et al. Changes in diabetes prevalence and treatment in the last ten years in Luxembourg. A lesson from the United Kingdom prospective diabetes study. Diabetes Metab 31 (2005): 499-502.