Journal of Natural Sciences Research www.iiste.org
ISSN 2224-3186 (Paper) ISSN 2225-0921 (Online)
Vol.5, No.16, 2015

Assessment Knowledge and Practice of Diabetic Patients (Type II) about Long Term Complications of their Disease in Kirkuk City

Abid Salih Kumait
Assis Lecture /University of Kirkuk ,College of Nursing

Yaseen Mohammed Mussa
Lecture /University of Kirkuk ,College of Nursing

Abstract
Background:- Diabetes mellitus is a syndrome that affects all the body parts , is a life-long disease marked by elevated levels of sugar in the blood. It is the second leading cause of blindness and renal disease worldwide**.** This can cause severe short-term and long-term Complications s ranging from brain damage to amputations and heart disease
Aim of the study :- In order to assess knowledge and practice of Diabetic patients (Type 2) about long term complications of disease in Kirkuk city as well as to find out the relationship between patients knowledge , practice and some socio-demographic characteristic such as age ,gender ,educational level , address and job
Methodology:- A descriptive study of **a** quantitative design were carried out at Azadi teaching hospital and Kirkuk general hospital in Kirkuk city for diabetic patients (type 2) from 2nd of July , 2013, up to the 20th of April , 2014. A non-probability (purposive) sample of (200) definitely diagnosed with diabetes mellitus (type 2) selected from adult patients who were attended to Azadi Teaching Hospital and Kirkuk General Hospital in Kirkuk city. Developed questionnaire was constructed for the purpose of the study which consisted of four parts: the first part include the demographic data (6) items , the second part consist from (5) items of patients medical date , the third part was contained (21) questions which assess the knowledge of the diabetic patients about long term complications of diabetic and the fourth part was contained (10) questions which assess the practice of the diabetic patients about long term complications of diabetic . 3-likert scale option was used in the rating scale as: (3) for yes , (2) for uncertain ,and (1) for no . Content validity was determined by presenting the questionnaire to a panel of (10) experts . The data were collected through the use of interview. They were analyzed through the application of descriptive statistical analysis (frequency and percentage) and inferential statistical data analysis (chi-square, T –test and ANOVA) by using the statistical package of social science (SPSS) version (17).
Results :-The findings of the study indicated that (56.5%) of the patients were in age group between (45-60), (56.5%) were females, (53%) has family history of diabetic mellitus , (44%) were house wives, (73%) were married, , (78.5%) living in urban also the study conclude highly significant relation between diabetic patients knowledge and their age , education level , marital status and job.
Conclusions:- The study finding the patients knowledge and practice were poor about their disease in Kirkuk city
Recommendation :- Designed an educational programs to increase people knowledge about their life style, etiology, signs and symptom, complication and treatment of diabetic mellitus and practice which decrease the impact of their disease . Advertisements and some health educational programs regard diabetic mellitus should be encouraged through mass media
Keywords:- diabetic patients , practice, Knowledge .

Introduction:
Diabetes mellitus is a metabolic disorder characterized by abnormally high levels of glucose in the blood. Type 1 diabetes (previously known as juvenile diabetes) is a relatively rare autoimmune disorder in which insulin-producing cells in the pancreas are non functional. In type 2 diabetes (previously known as adult-onset diabetes), either the pancreas does not make enough insulin or the body is unable to use it efficiently Type 2 diabetes is a common, chronic, and progressive disease that is frequently disabling and potentially deadly. Diabetes can shorten life expectancy by as much as 15 years, and the majority of deaths in people with type 2 diabetes are due to cardiovascular complications[(1)] .

The incidence of diabetes has soared worldwide in recent years and is expected to keep growing, with the greatest increase seen in metabolic forms of diabetes, notably type 2. This is blamed largely on the rise of obesity and the global spread of Western-style habits: physical inactivity along with a diet that is high in calories, processed carbohydrates and saturated fats and insufficient in fiber rich whole foods. The aging of the population is also a factor. However, other factors, such as environment may also be contributing, because cases of autoimmune diabetes (type 2) are also becoming more common[(2)].

Estimated number of people with diabetes has jumped from 30 million in 1985 to 150 million in 2000

and then to 246 million in 2007, according to the International Diabetes Federation. It expects this number to hit 380 million by 2025. Seven percent of Americans have diabetes, , which predicts that one in three Americans born in 2000 will eventually become diabetic. Health agencies are warning that diabetes is becoming an unprecedented epidemic even as other major diseases including cancer and non diabetic heart disease are being controlled. Diabetes is ranked as the sixth-leading cause of death in the United States, but the actual ranking may be higher because it is underreported as a cause of death, according to the NIH. Diabetes kills more than 1 million people a year[(3)] .

Diabetes leads to both premature death and complications such as blindness, amputations, renal disease, and cardiovascular diseases. Diabetes is also costly to health care systems. People with diabetes have more outpatient visits, use more medications, have a higher probability of being hospitalized, and are more likely to require emergency and long-term care than people without the disease. In the United States, people with diabetes, on average, spent 2.5 times more on medical care than people without the condition[(4)].

Objectives of the study

1.To assess knowledge and practice of diabetic patients Type -2- about long term complication of their disease in Kirkuk city.

2. - To find out the relationship between knowledge , practice and some Socio- Demographic characteristic such as age, gender, address

Methodology

To achieve the objectives of the study quantitative design (descriptive study) was conducted for Diabetic patients from 2nd July 2013 up to the 20th of April 2014 .To assess knowledge and practice of diabetic patients type -2- about long term complications of their disease in Kirkuk city The present study was conducted at Azadi teaching hospital and Kirkuk general hospital . A non-probability (purposive) sample of (200) definitely diagnosed diabetic , selected from adult patients who were attended to the Azadi teaching hospital and Kirkuk general hospital in Kirkuk city according to following criteria, adult patient more than 20 years old ,definitely diagnosed with type -2- of diabetic Through extensive review of relevant literature,a questionnaire was constructed for the purpose of the study with interview technique. Overall items included in the questionnaire were (53) items . All items were measured on three rating scale, Yes (3), Un certain (2) and No (1). The questionnaire consists of four parts **part one** demographic data This part included (6) **, part two:** Medical Data This part included (5) items such as (age, gender, residence, marital status, occupation, and level of education) , **part three** Knowledge of the patients this part include (5) domain first domain is Macro vascular complications consist of (5) sub items, second domain is **Diabetic retinopathy** of diabetic consist of (6) sub items, third domain is Nephropathy consist of (5) sub items, fourth domain is **Diabetic neuropathy** consist of (4) sub items, fifth domain is **Foot and leg problem** consist of (6) sub items) , **part four** practice of the Patients this part included (10) items. The overall questions includes (26) items ,3-likert scale option were used in the rating scale as: (3) for yes,(2) for un certain , (1) for no**.** validity of the questionnaire was determined by presenting the questionnaire to a panel of (10) experts in different specialties. The data Was collected between20th July 2013 up to the 25th of November 2013. Data were analyzed by using descriptive statistics, which include **frequency and percentages and inferential statistics (chi-square test, t test and Anova), data are prepared, organized and entered into the computer file; Statistical Package for Social Science (SPSS) version (17) is used for data analysis at (P.value ≤ 0.05).**

Results:

Table (4-1) Demographic characteristics of the study sample (No=200)

Variables	No.	%
Age		
25-44 years	37	18.5
45-64 years	113	56.5
65-84years	43	21.5
85 and more	7	3.5
Total	200	100.0
Gender		
Male	87	43.5
Female	113	56.5
Total	200	100.0
Residence		
Urban	157	78.5
Rural	43	21.5
Total	200	100.0
Marital status		
Single	12	6.0
Married	146	73.0
Divorced	4	2.0
Widow	38	19.0
Total	200	100.0
Job		
Retired	17	8.5
Civil work	35	17.5
Functionless	21	10.5
Housewife	88	44.0
Employed	39	19.5
Total	200	100.0
Educational levels		
Unable to read and write	88	44.0
read and write	35	17.5
Primary school	20	10.0
Intermediate school	16	8.0
Secondary school	9	4.5
Institution	16	8.0
College	16	8.0
Total	200	100.0

Table (4-1) demonstrates the socio-demographic characteristics of the whole study sample. The results shows the high percent in age most patients at age between (45-6 years) and constitute (56.5 %) .Also the results shows the diabetic is common in females and constituted of (56.5 %) . With regard to residence (78.5%) were living in urban areas, most of the patients were married and constituted (73.0%) and (44.0%) of the sample were housewife with regard to the educational level (44.0%) of the sample were unable to read and write

Part Three: The knowledge of the patients

Table (4-3): Mean of Scores for Macro vascular complications items with frequency , percentage , severity and Chi-square .

No	Macro vascular complications	Yes		Un certain		No		MS	Severity
		F	%	F	%	F	%		
1	Macro vascular complications result from changes in the medium to large blood vessels	70	35.0	28	14.0	102	51.0	1.84	LS
2	Blood vessels walls thicken, sclerosis and become occlude by plaque.	93	46.5	28	14.0	79	39.5	2.07	MS
3	Coronary artery , cerebro vascular and peripheral vascular disease are the three main types of macro vascular complications	45	22.5	33	16.5	122	61.0	1.315	LS
4	Myocardial infarction is twice as common in men and three times as common in women with diabetes	59	29.5	46	23.0	95	47.5	1.82	LS
5	Coronary artery disease may account 50 to 60% of all deaths among diabetic patients	33	16.5	46	23.0	121	60.5	1.56	LS

Obs.X^2 = 57.781 **DF = 8** **Crit. X^2 =**15.51

This table indicates that the mean of score was low significant in items (1,3,4 ,5) and moderate significant in items (2) .

Table (4 - 7): Mean of Scores for Foot and leg problem items with frequency, percentage and severity and Chi-square

No	Foot and leg problem	Yes		Un certain		No		MS	Severity
		F	%	F	%	F	%		
1	Between 50 and 75%of lower extremity amputation are performed on people with diabetes	128	64.0	28	14.0	44	22.0	2.42	MS
2	More than 50% of these amputations are thought to be preventable	89	44.5	45	22.5	66	33.0	2.115	MS
3	Risk factors for foot problem duration of diabetes more than 10 years , increase age more than 40years and history of smoking	104	52.0	44	22.0	52	26.0	2.26	MS
4	Motor neuropathy result in muscle atrophy which ma lead to change in the shape of the foot	111	55.5	31	15.5	58	29.0	2.265	MS
5	Poor circulation of lower extremity lead to poor wound healing and lead to gangrene	131	65.5	28	14.0	41	20.5	2.45	MS
6	Amputation may be necessary to prevent the spread of infection	116	58.0	19	9.5	65	32.5	2.255	MS

Obs.X^2 =36.754 **DF=10** **Crit. X^2 =18.31**

This table indicates that the mean of score was moderate significant in items (1 , 2,3,4 ,5,6)

Table (4 - 8): Mean of Scores for practice items with frequency, percentage and severity and Chi-square

No	Practice	Yes		Un certain		No		MS	Severity
		F	%	F	%	F	%		
1	Do control and maintaining a reasonable weight	53	26.5	76	38.0	71	35.5	1.91	LS
ls	Do you Regularly exercise such as walking every day at least for 30 min	32	16.0	57	28.5	111	55.5	1.60	LS
3	Do you monitoring of glucose for two time per day	29	14.5	76	38.0	95	47.5	1.67	LS
4	Do you take drug at regular time	31	15.5	73	36.5	96	48.0	1.67	LS
5	Do you Take insulin or oral antidiabetic agents as usual	30	15.0	79	39.5	91	45.5	1.69	LS
6	Do you Look at your bare feet every day for cuts, blisters, red spots, and swelling	29	14.5	79	39.5	92	46.0	1.68	LS
7	Do you taking all the needed investigation at the time and as the doctor ordered?	34	17.0	77	38.5	89	44.5	1.72	LS
8	Do you take injection at the right site.	34	17.0	80	40.0	86	43.0	1.74	LS
9	Do you regularly attendance to the doctor for physical checks up	38	19.0	79	39.5	83	41.5	1.77	LS
10	Do you obligate by advices from specialists about how the treatment of the disease	40	20.0	78	39.0	82	41.0	1.79	LS

Obs.X^2 =30.388 DF=18 Crit. X^2 = 28.87

This table indicates that the mean of score was low significant in all items of patients practice

Table (4-13) One –way analysis of variance for the difference between Macro vascular complications, Diabetic retinopathy, Nephropathy , Diabetic neuropathy and Foot and leg problem of diabetic clients and education level .

Categories	S.O.V	S S	M S	F.Obs
Macrovascular complications	Between Groups	502.582	83.764	10.075 S
	Within Groups	1604.613	8.314	
	Total	2107.195		
Diabetic Retinopathy	Between Groups	363.262	60.544	4.102 S
	Within Groups	2848.533	14.759	
	Total	3211.795		
Nephropathy	Between Groups	401.417	66.903	6.735 S
	Within Groups	1917.303	9.934	
	Total	2318.720		
Diabetic neuropathy	Between Groups	65.372	10.895	2.126 S
	Within Groups	988.948	5.124	
	Total	1054.320		
Foot and leg problem	Between Groups	287.952	47.992	3.225 S
	Within Groups	2872.003	14.881	
	Total	3159.955		

F critical =2.09 Df=199

Table (4-13) this table shows that there were significant differences between clients Macro vascular complications, Diabetic retinopathy, Nephropathy , Diabetic neuropathy and Foot and leg problem, regarding to their education level at P value ≤ 0.05

Table (4-14) One –way analysis of variance for the difference between practice of the client of diabetic clients and age .

Categories	S.O.V	S S	M S	F.Obs
Macrovascular complications	Between Groups	10.796	.568	1.074
	Within Groups	95.204	.529	NS
	Total	106.000		

Table (4-14) this table shows that there were no significant differences between clients practice regarding to their age at P value ≤ 0.05

Discussion of the Results:

This chapter presented detailed interpretation and answers of the study questions with discussion supported by the available literature.

5:1: The impact of demographic factors on patients knowledge such as: (age, gender, educational level, marital status, occupation and address).

Results of the study in table (1) show that high percentage of Patients were (45-64 years) and constitute (56.5 %) of the total sample. The explanation of this result may be this age group are more common because this category from (45-64) years is more available in our community. The result of our study is agreement with the study about Self-reported data intimates that the document the diabetic disease affects 1% of people under the age of 40 years, rising to 12% in those over 75 years of age[5] (AIHW, 2008) .Wild (2004) shows the prevalence of DM is higher in people > 65 years of age[6] .

The result of table (1) show that diabetes is more common in female and constitute (56.5 %) from total sample.

Hammami et al (2012) conducted their study about The Prevalence of diabetes mellitus among non institutionalized elderly and shows 27.4% (29.2% in males' vs 26.5% in females[7].

With regard to their address (78.5%) were living in urban areas. The explanation may be that the faraway of the town narrowed down the numbers for visiting the hospital in the city.

(Abdur Rahim , 2002) conducted study among the rural, urban and sub urban population of Bangladesh showed that the combine prevalence among the rural and urban populationwas 5.2% of which rural prevalence was 3.8% and urban prevalence was 7.8%[8].

The findings in table (1) high percentage of patients was married and constitute (73%) because our communities focus on marriage, so we find that most of the elderly clients are married.

Minet (2010) conducted their study about self-management in diabetes and showed Sixteen patients were married or lived with a partner and 6 lived alone[9]

It appears from the table the majority of the patients was house wife and consist (44.0%) this is because the women more than in our country and the sample of the study was female.

The present study is agreement with study Among the female subjects and shows 76 % were housewives and 19 percent were engaged in job (Abdur Rahim , 2002)[8]

Sukwatjanee and others (2009) mentioned study about Enhancing Self-care Ability and Quality of Life among Rural-dwelling Thai Elders with Type 2 Diabetes through a Self-help Group and found Approximately half of the participants (55%) reported their work status as housewife[10] .

With regard to the educational level It is obvious from the table that most of the patients were un able to read and write and constitute about (44.0%) from total patients, the reason of this marked proportion is that lack of social knowledge.

Sarac and others (2007) mentioned their study in urban area about type 2 diabetic patients were separated into three groups according to the level of education, namely no education (150 patients), elementary (765 patients), high school and university (235 patients)[11] .

Table (13) this table shows that there were significant differences between clients Macro vascular complications, Diabetic retinopathy, Nephropathy , Diabetic neuropathy and Foot and leg problem, regarding to their education level at P value ≤ 0.05

Abdella (2008) and others reported the level of education allows increased awareness about type II diabetes risk factors, complications and management, and especially lifestyle choices . A study of 3003 diabetic patients in Kuwait reported that 27.5% of diabetic patients were illiterate, while 15.5% were better educated[12]

Conclusions and Recommendations:

Conclusions :-

The findings are based on the results of data analysis. According to the objectives of this study, the conclusions are:

1- Most of the diabetic patients were between 45- 64 years old and represent (56.5%) , male to female

ratio is (56.5%) for female and (43.5 %) for male , majority of the diabetic patients were from urban area and represented (78.5%).

2- High percentage of diabetic patients were married and constitute (73%), Most of them were house wife and constitute (44%) .with regard to educational level (44%) of the samples were unable to read and write .

3- Most of the diabetic patients were had complaint of disease 1-4years and represent (27.5%) and duration of treatment were between 1-4 years and represent (29.5 %) .

4- Majority of the diabetic patients were not cigarette smoker that represent (69%) , (33.5%) of the diabetic patients does not have disease and (53%) of the diabetic patients had family history for DM.

5- The result shows that diabetic patients has inadequate knowledge regarding to diabetic complications of neuropathy , nephropathy and retinopathy while diabetic patient has adequate knowledge about diabetic complications about foot and leg problem

6- The result shows highly significant relation between diabetic patients knowledge and their age , education level , marital status and job .

Recommendations:

Depending on the findings and conclusions of the study, the researcher recommends the followings:-

1-Educational programs should be designed to increase people knowledge about their life style, etiology, signs and symptom complication and treatment of diabetic mellitus.

2- Providing scientific booklet, publication and journal about diabetes

3- Specify a modern center for dealing diabetic mellitus

4- Establish modern center to deal with diabetic foot patients .

4- Further study has to be conducted in all Kirkuk regions.

5- Secondary school curriculum should include topics concerning the caused and risk factors of the disease and its prevention.

6-Advertisements and some health educational programs regard diabetic mellitus should be encouraged through mass media.

Reference

1- Davies MJ, Tringham JR, Troughton J, Khunti KK. Prevention of type 2 diabetes mellitus: a review of the evidence and its application in a UK setting. *Diabet Med*. 2004;21:403-414.

2- Shaw JE, Sicree RA, Zimmet PZ. Global estimates of the prevalence of diabetes for 2010 and 2030. Diabetes Res Clin Pract 2010; 87(1):4-14.

3- Cefalu WT, Waldman S, Ryder S .Pharmacotherapy for the treatment of patients with type 2 diabetes mellitus: rationale and specific agents. Clinical Pharmacology journal . (2007). 81(5): 636-649

4- American Diabetes Association, Economic costs of diabetes in the U.S., Diabetes Care 31 (3) (2008) 596–615.

5- *Australian Institute of Health and Welfare (AIHW). 2008. Australia's Health 2008. Canberra: AIHW*

6- Wild S, Roglic G, Green A, Sicree R, King H. Global prevalence of diabetes: estimates forthe year 2000 and projections for 2030. *Diabetes Care* 2004; 27(5):1047-1053.

7- Hammami , S , Mehri, S, Hajem ,S . Prevalence of diabetes mellitus among noninstitutionalized elderly in Monastir City BMC Endocrine Disorders 2012, 12:15 Page 2 of 7available at http://www.biomedcentral.com/1472-6823/12/15

8- *Abdur Rahim ;Muhammad .diabetes in Bangladesh, prevalence and determinants . (2002) thesis ,pp .41-42Recently*

9- Minet R, .self-management in diabetes Care: The importance of self-care management intervention in chronically ill patients diagnosed with diabetes (2010), thesis :pp-19-20

10- Sukwatjanee , A; Pongthavornkamol ,K ; Suwaonnaroop ,N and Chokkhanchitchai ,S . Enhancing Self-care Ability and Quality of Life among Rural-dwelling Thai Elders with Type 2 Diabetes through a Self-help Group: A Participatory Action Research Approach .The Journal of Behavioral Science 2009.Vol.4 No.1. 70-76

11- Sarac ,Z , Tuzun, M , and Tutuncuo ;P ; quality of life in Turkish diabetic Journal . 2007; 11: pp 48-53

12- Abdella, M. Al Arouj, A. Al Nakhi, A. Al Assoussi, and M. Moussa, "Non insulin-dependent diabetes in Kuwait: prevalence rates and associated risk factors," Diabetes Research and Clinical Practice, 2008 vol. 42, no. 3, pp. 187–196,.

The IISTE is a pioneer in the Open-Access hosting service and academic event management. The aim of the firm is Accelerating Global Knowledge Sharing.

More information about the firm can be found on the homepage:
http://www.iiste.org

CALL FOR JOURNAL PAPERS

There are more than 30 peer-reviewed academic journals hosted under the hosting platform.

Prospective authors of journals can find the submission instruction on the following page: http://www.iiste.org/journals/ All the journals articles are available online to the readers all over the world without financial, legal, or technical barriers other than those inseparable from gaining access to the internet itself. Paper version of the journals is also available upon request of readers and authors.

MORE RESOURCES

Book publication information: http://www.iiste.org/book/

Academic conference: http://www.iiste.org/conference/upcoming-conferences-call-for-paper/

IISTE Knowledge Sharing Partners

EBSCO, Index Copernicus, Ulrich's Periodicals Directory, JournalTOCS, PKP Open Archives Harvester, Bielefeld Academic Search Engine, Elektronische Zeitschriftenbibliothek EZB, Open J-Gate, OCLC WorldCat, Universe Digtial Library , NewJour, Google Scholar