Knowledge , attitude and Practice (KAP study) on diabetic patients in AL-Diwaniya Province

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Abstract

The term diabetes mellitus describes a metabolic disorder of multiple etiology characterized by chronic high blood glucose with disturbance of carbohydrate, fat, and protein metabolism resulting from defect in body either doesn't produce enough insulin, is un able to use its own insulin, or both. The effects of diabetes mellitus include long-term damage, dysfunction and failure of various organs; diabetes self-management education is a corner stone of diabetes care. However, many diabetics in AL-Diwaniyah province lack sufficient knowledge about their disease due to illiteracy. Thus, before considering any possible intervention it was imperative to assess present knowledge, attitude, and practice (KAP) of patients towards the management of diabetes.

A cross section study done with a random sample of 99 patient selected from city center and sectors during 2015-2016, and their (KAP) assessed using questionnaire modified from.

The study showed low levels of diabetes awareness and negative attitudes towards the importance of DM care and satisfactory diabetes in AL- Dewaniya province.

Recommended programs to increase patients awareness about DM are essential for all diabetics in AL-Dewaniya province in order to improve their understanding, compliance and management.

Corner stone is increase education level by professionals to exclude the effect of other people who are not practiced in health educations of DM like for example herbal practice.

Improve education level not done by physician, but done by DM team especially the dietitian and health educator.

Introduction

The term diabetes mellitus describes a metabolic disorder of multiple etiology characterized by chronic high blood glucose(blood sugar) (hyperglycemia) with disturbance of carbohydrate, fat, and protein metabolism resulting from defect in body either doesn't produce enough insulin (insulin secretion),is un able to use its own insulin (insulin action), or both. The effects of diabetes mellitus include long- term damage, dysfunction and failure of various organs [1,2].

Several pathogenic processes are involved in the development of diabetes [3]. These include process which destroy the beta cells of the pancreas with consequent insulin deficiency, and other that result in resistance to insulin action. The abnormalities of carbohydrate, fat, and protein metabolism are due to deficient action of insulin on target tissue resulting from insensitivity or lack of insulin [4,5].

Type1 DM: (previously known as insulin dependent juvenile or child hood-onset) is

characterized by deficient insulin production and required daily administration of insulin [6].

Impaired glucose tolerance (IGT) and impaired fasting glycaemia (IFG): Impaired fasting glycaemia and impaired glucose tolerance are intermediate condition, the transition between normality and diabetes [7].

Type2 DM: this form of diabetes characterized by insulin resistance and relative lack of insulin secretion, with progressively lower insulin secretion over time. Most of individuals with type2diabetes exhibit abdominal obesity which itself causes insulin resistance [8]. In addition, hypertension, dyslipidemia (high triglyceride levels and low HDL-cholesterol levels), and elevated inhibitor plasminogen activator-1(PAI-1) levels, which contributes to a hyper co-agulable state, are often present in these individuals. This clustering of abnormalities is referred to as the" insulin resistance syndrome "or the "metabolic syndrome". Because of these abnormalities; patient with type2diabetes are increased risk of developing macro vascular complications. Type2diabetes has a strong genetic prides position and is more common in all ethnic groups other than those of European ancestry. At this point the genetic cause of most cases of type2diabetes is not well defined. [9,10]

Diabetes symptoms

The following symptoms of diabetes are typical. However, some people with type2 diabetes have symptoms so mild that they go unnoticed common symptoms of diabetes:

1. Urinating often 2.Feeling very thirsty 3.Feeling very hunger-even though you are eating 4.Extreme fatigue 5.Blurred vision 6.Cuts/bruises that is slow to heal 7.Wight loss even though eating more (type1) 8.Tingling, pain, or numbness in the hands/feet (type2) **[11]**

Patient education

Diabetes mellitus is a chronic illness that requires a lifetime of special self-management behaviors .Nurses play a vital role in identifying patients with diabetes, assessing self care skills, providing basic education, reinforcing the teaching provided by the specialist, and referring patients for follow-up care after discharge[12,13].

The American Association of Diabetes Educators recommended

Organizing education using the following seven tips for managing diabetes: 1-healthy eating 2-being active 3-monitoring of blood sugar

4-taking medication 5-problem solving 6-healthy coping 7-reducing risks

Teaching Experienced Patients: Continue to assess the skills and self-care behaviors of patients who have had diabetes for many years, including direct observation of skills, not just the patient's self-report of self-care behaviors, ensure these patients are fully aware of preventive measures related to foot care, eye care, and risk factor management.

Primary treatment of T2 DM is weight reduction, exercise is important in enhancing the effectiveness of insulin and use oral hypoglycemic agents if diet and exercise are not successful in controlling blood glucose levels. Insulin injections may use in acute situations.

Epidemiology of DM type II

About 90% to 95% of patients with diabetes have type2 diabetes. The rapidly increasing prevalence of type 2 diabetes demonstrates the important role played by life style factors and provides the potential for reversing the global epidemic of type2 diabetes. [14].

IN 2012 the prevalence of diabetes in USA 29 million (9.3%) of the population, the incidence of Americans are diagnosed with diabetes every year is 1.4million [15], Diabetes remains the seventh leading cause of death in the United States in 2010 [14].

In Iraq a local household survey undertaken in nine Iraqi governorates in 2000 showed that 15% of the adult populations above 40 years of age have

diabetes. In another household survey (2005), self reported diabetes was (4.1%). In 2006 the survey results showed that (6.5%) of the sample reported having DM; the rate among male was higher than females (7.3% vs. 5.9% respectively) [16].

Method

Study design:-cross-sectional study

Time of the study:-three months from Jun to Mar 2016

Place of the study:- Dewaniya province include (city center and sectors)

Sample size:- Ninety nine patients were selected

Inclusion criteria

All patients who have diabetes mellitus type2 the following criteria

1-Age of patients (above 18 years old).

2-All the patients must from Dewanyia province.

Exclusion criteria[3] 1-Diabetes mellitus type1. 2-gestential diabetes

3-Unconscious patients. 4-Patient from other provinces.

5-patients under 18 years old

QUESTIONNAIRE INFORMATION

Information taken directly from the patients and this achieved by the researcher [3]

The questionnaire include the following:-

1-Sociodemographic characteristics: like (Age, Sex, Educational level, marital status and Occupation)

2-Clinical characteristic: - like (mode of diagnosis, family history of DM, duration of DM, and glycemic control)

3-Diabetes general knowledge: - like (knowledge of diabetes symptoms and complication, source of DM knowledge

4-Diabetes practices of the study :- like (patients control of DM, patient self-control of blood sugar, patient test of blood sugar, Barriers of self-testing among DM patients)

5-Attitude

1-nagative or positive attitude to words having the disease

2-ability to self-manage diabetes

3-awerance of importance of DM

PLAN OF WORK

1-Collect 99 samples from hospital, public health centers (PHC),
Schools, Homes and molls.

2-Explain the goal of the study for the patient before start intervention.

3-Interview the patient under good circumstances by sitting in front of them and start question.

4-Fulling the questionnaire with answers.

Data analysis

Input of all questionnaires of patient on excel program on computer then analysis the result by using **spss version 13**

Results

Table 1: Sociodemographic characteristics of the study population

Characteristic		N	%
Gender	Male	39	39.4
	Female	60	60.6
Education	Illiterate	43	43.4
	Elementary	26	26.3
	Secondary	14	14.1
	Collage	16	16.2
Age group	18 - <40 years	6	6.1
	40 - <50 years	19	19.2
	50 - <60 years	38	38.4

	≥60 years	36	36.4
Marital status	Single	2	2.0
	Married	97	98.0
Occupation	Employee	25	25.3
	Private business	21	21.2
	House wife	53	53.5

Table 2: Clinical characteristics

Characteristic		**N**	**%**
Mode of diagnosis	Symptoms	49	49.5
	Incidental	50	50.5
Family history	+positive	45	45.5
Duration	Less than 1 year	5	5.1
	1-5 years	19	19.2
	5-10 years	32	32.3
	10-20 years	33	33.3
	more than 20 years	10	10.1
Other chronic condition		68	68.7
Glycemic control	Good	7	7.1
	Acceptable	11	11.1
	Poor	81	81.8

Table 3: General Knowledge parameters

Parameter	**Yes**		**No**	
	N	**%**	**N**	**%**
Tiredness	92	92.9	7	7.1
Blindness	89	89.9	10	10.1
Frequent urination	92	92.9	7	7.1
kidney disease	59	59.6	40	40.4
Blurred vision	92	92.9	7	7.1
Loss of Limb	79	79.8	20	20.2
Heart disease	60	60.6	39	39.4
Nerve disease	89	89.9	10	10.1
Weight loss	81	81.8	18	18.2
Stroke	58	58.6	41	41.4
Impotence	38	38.4	61	61.6

Table 4: Knowledge of diabetes symptoms and complication

Parameter	**Yes**		**No**	
	N	**%**	**N**	**%**
Insulin control blood sugar	76	76.8	23	23.2

DM is a condition of high blood sugar	89	89.9	10	10.1
Body is not producing enough insulin	60	60.6	39	39.4
Caused by excessive sugar and sweet	91	91.9	8	8.1
Body fails to response to insulin	60	60.6	39	39.4
DM is caused by kidney failure	62	62.6	37	37.4

Table 5: Source of DM knowledge

Parameter		**N**	**%**
Source of knowledge	Doctor	79	79.8
	Nurse	4	4.0
	Pharmacist	2	2.0
	Electronic	28	28.3
	Health educator	10	10.1
	Dieticians	0	0.0
	Friends and family	37	37.4
	Published media	12	12.1
Frequency of seeing diabetes educator	None	44	44.4
	Once	20	20.2
	Twice	13	13.1
	Three and >	22	22.2

Table 6: Diabetes practices of the study

	Yes		**No**	
Parameter	**N**	**%**	**N**	**%**
Always attending DM	61	61.6	38	38.4
Never controlling weight	52	52.5	47	47.5
No physical exercise	50	50.5	49	49.5
No special diet	48	48.5	51	51.5
No complying with	37	37.4	62	62.6
No check toes and feet	39	39.4	60	60.6
Never take care when cutting	33	33.3	66	66.7

Table 7: Patient self-control of blood sugar, Patients test of blood sugar, Barriers of self-testing among DM patient

Parameters		**N**	**%**
Patient self control of blood sugar	Always in good control	30	30.3
	often in good control	25	25.3
	Sometime in good control	29	29.3
	Never on good control	15	15.2
Patients test of blood sugar	Always test blood sugar	34	34.3
	Often test blood sugar	9	9.1
	Sometime test blood sugar	30	30.3

	Never test blood sugar	26	26.3
Barriers of self testing among DM patient	Too expensive	47	47.5
	Too painful	8	8.1
	Not really needed	35	35.4
	Do not know how to read	9	9.1

Table 8: Attitude

Parameter	Yes		No	
	N	%	N	%
Negative other to words	57	57.6	42	42.4
Ability of self manage diabetes	83	83.8	16	16.2
Awareness of importance of drug adherence	53	53.5	46	46.5

Table 9: Average score

Score	Median	Mean	SD	Minimum	Maximum
Score of Knowledge	18.0	17.4	3.9	2	24
Score of Attitude	1.0	0.7	0.5	0	1
Score of Practice	18.0	17.0	4.7	4	26

Table 10:

Parameter		Score of Knowledge	P	Score of Attitude	P	Score of Practice	P
Gender	Male	18.1±3.46	0.174	0.64±0.49	0.663	15.72±4.84	0.035
	Female	17.02±4.09		0.68±0.47		17.77±4.58	
Education	illiterate	16.14±3.95	0.001	0.6±0.50	0.541	17.07±4.64	0.898
	Elementary	16.88±3.93		0.65±0.49		16.54±5.10	
	Secondary	19.79±2.30		0.79±0.43		16.64±3.97	
	collage	19.81±2.74		0.75±0.45		17.62±5.37	
Age	18-40 years	18.83±4.17	0.304	0.83±0.41	0.663	15.33±6.35	0.496
	40-49 years	16.47±4.51		0.67±0.49		16.26±5.77	
	50-59 years	17.03±3.86		0.61±0.50		16.74±4.74	
	60 or > years	18.17±3.43		0.71±0.46		17.83±3.84	
Marital status	Single	17±7.07	0.871	0.5±0.71	0.618	12.5±3.54	0.180
	Married	17.45±3.85		0.67±0.47		17.05±4.73	
Occupation	Employee	19.64±3.23	0.004	0.72±0.46	0.552	17.24±4.61	0.034
	Private business	16.86±2.90		0.57±0.51		14.62±4.67	
	House wife	16.64±4.14		0.68±0.47		17.75±4.61	

Table 11:

Parameter		Score of Knowledge	P	Score of Attitude	P	Score of Practice	P
Diagnosis	Symptom	17.88±3.40	0.273	0.72±0.45	0.253	16.29±4.49	0.163
	Incidental	17.02±4.28		0.61±0.49		17.62±4.93	

Family history	Negative	17.2±3.69	0.501	0.6±0.50	0.113	16.94±4.14	0.972
	Positive	17.73±4.10		0.75±0.44		16.98±5.43	
Duration	less than 1 year	15.6±7.02	0.112	0.5±0.71	0.383	18.2±4.82	0.357
	1.1-5 years	18.21±4.12		0.68±0.48		16.95±5.13	
	5.1-10 years	18.59±2.73		0.75±0.44		17.66±4.88	
	10.1-20 years	16.45±4.02		0.55±0.51		16.94±4.05	
	more than 20 years	16.5±3.44		0.8±0.42		14.2±5.55	
Other chronic condition	No	17.58±3.33	0.815	0.55±0.51	0.091	16.06±5.67	0.206
	Yes	17.38±4.12		0.72±0.45		17.37±4.24	
Glycemic control	Good	18.57±3.36	0.083	0.57±0.54	0.828	18.43±4.61	0.698
	Acceptable	19.64±3.33		0.64±0.51		16.73±3.85	
	Poor	17.05±3.90		0.68±0.47		16.86±4.89	

Discussion

The present study showed that knowledge score didn't affected by age, gender and marital status of the patient; this disagree with the findings of AL-Maskari et al.,2013. The possible explanation for the lack of association with age is the poor management from the start of diagnosis with neglecting of educating patients about their disease

Females better in practice than males because female may be more accurate and scary from complications

Only significant findings with knowledge, but not significant findings with practice and attitude this may explained by the educated people were full of knowledge, but they not applicant what they know to their health, this disagree with the findings of AL-Maskari et al.,2013.

Age not effect on KAP study, which it should be increasing the score (at least knowledge) with age , but especially people who lived with DM many years , but no effect that may be due to poor follow up to the poor education about DM for them.

Small age with diabetes that their practice, attitude must be high, but unfortunally not significant they are not get information and practice all these years due to the poor follow up management. This disagree with the findings of AL-Maskari et al.,2013.

Reason for KAP not high or change significant with age (which should be get better) was poor practice of doctor because the management of diabetes patient done only by physician and that not scientifically accepted, should be done by a team consist of physician ,dietitian , pharmacist, nurse and health educator .

This team is absent in our society so the treatment of DM done only by physician and drug or insulin. Neglecting the role of dietitian and health educator and the rest of all the team lead to very low score of KAP and they were poor contact of DM the problem may have decline Long term complication.

No effect of marital status (no effect of suppose in supporting or promoting the health of other)

Score of the knowledge was high in employee and this related to education

and communication with community, which lead to increase the knowledge about DM

Practice of employee and housewife they are had high scored knowledge and significant

However, private not significant because the private job had not organized in time and so disorganized.

Conclusion and recommendation

Corner stone is increase education level in all life aspect from childhood until adulthood by professionals to exclude the effect of other people who are not practiced in health educations of DM like for example herbal practice.

Management of diabetic patients and follow-up their health not done by physician only, but done by DM team especially the dietitian and health educator.

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