Barriers to Dietary Compliance among Diabetic Patients

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الخلاصة

الهدف: تهدف هذه الدراسة إلى التعرف على العوائق للإلتزام بالحمية الغذائية بين مرضى السكري.

المنهجية: تكونت عينة البحث من **(100)** مريض والذين تم قسمهم إلى مجموعتين حسب نوع السكري عندهم؛ النوع الأول-المعتمد على الأنسولين، والنوع الثانى-غير المعتمد على الأنسولين. تحتوي كل مجموعة على **(50)** مريض والذين تم اختيارهم عشوائيا في كل زيارة إلى مركز الوفاء في مدينة الموصل خلال الفترة من الأول من كانون الأول 2005 ولغاية الأول من شباط .2006 شملت خطوات الدراسة تسجيلا لمختلف العوائق لمرضى السكري. تم استخدام استبانه صممت من قبل الباحث لهذا الغرض.

النتائج: أظهرت نتائج الدراسة بأن هناك بعض العوائق مثل الملل من الغذاء، عدم الإيمان بالحمية الغذائية كنوع من العلاج. الاعتماد على الأدوية. ونقص المعرفة لدى المرضى حول الغذاء المناسب لمرض السكري, وكذلك أظهرت الدراسة بأن بعض العوائق كنت أقل شيوعاً من غيرها مثل العوائق الاجتماعية, عدم القدرة على السيطرة على النفس والالتزام لمرضى السكري.

التوصيات: يوصي الباحث بتبنّي التثقيف الصحي بشأن مضاعفات السكري أو بشأن المشكلات الصحية الأخرى المرتبطة بالسكري عن طرق المطويات والكتيبات وعن طريق الصحف والتلفاز والذي يمكن أن يساعد تقليل وطأة العوائق آنفة الذكر.

Abstract

The aim of the study is to identify the barriers to dietary compliance among diabetic patients.

Methodology: The sample of the study consist of 100 patients who were divided into two groups according to the type of diabetes mellitus; type 1 (Insulin-dependent diabetic mellitus), and type n (Non-Insulin dependent diabetes mellitus). Each group consists of 50 patient selected randomly at each visit to Al-Waffa center in Mosul city during the period from (1-12-2005) to (1-2-2006).

The steps of the study include recording the different barriers for diabetic patients. The questionnaire was used and special list was utilized for such purpose.

Results: The results shows that there were some barriers most common such as bothering of diet, not believe in diet therapy, dependent of the drugs of diabetic, and lack of knowledge about diabetic diet and shows the lest common barriers such as social barriers, unable to control himself from «»ting and another barriers.

Recommendations: The suggestion to undertake teaching about the complications of diabetes or other diabetes-related health problems health education by means of pamphlets, booklets new paper and television what can help in minimizing the barriers of diet and compliance of diabetes mellitus.

Key Words: Barriers to Diet, Compliance to Diabetes.

Introduction

Diabetes mellitus is a cluster of metabolic disorders characterized by various degrees of insulin resistance and insulin deficiency that lead to a disturbance in blood glucose homeostasis(').

Symptoms of diabetes include increased thirst and frequent urination especially at night, unexplained increase in appetite, problems, blurred vision, and tingling numbness in the hand or feet2'.

Diabetes mellitus is a chronic disease that causes serious health complications including renal failure, heart disease, stroke, and blindness (!).

Insulin is an essential element for many bodily functions: it allows glucose to enter body cells where it is used as energy and it helps the body synthesize protein and store fat. When insulin availability or function is disturbed, glucose and lipids remain in the blood stream instead of being converted to energy. Over time, excess glucose and lipid damage the body's organs, having particularly deleterious effects on the heart (4).

Diabetic occur in two forms: type I, called insulin-dependent diabetes mellitus and type II, called non-insulin-dependent diabetic mellitus (5).

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Type II diabetes is most common form of diabetes representing 90 – 95% of all cases diagnosed (6). There is currently no cure for diabetes. The conditions, however, can be managed so that patients can live a relatively normal life (7).

Treatment of diabetes focuses on two goals: keeping blood glucose within normal range and preventing the development of long-term complication (8) Careful monitoring of diet, exercise, and blood glucose level are as important as the use of insulin or oral medication in preventing complication of diabetes (2). In 2003, The American Diabetes Association updated its standard help mange health care providers in the most recent recommendations for diagnosis and treatment of disease (9).

Methodology

A cross-sectional survey method was used in the present study. A randomly selected sample 100 patient a known cases of diabetic mellitus registered in Al-Waffa center for research and diabetes management were participated were divided into 2 groups, 50 patient for each one. It contains: Type I diabetes mellitus, or Insulin-dependent DM (IDDM). Type II diabetes mellitus or non-insulin dependent DM (NIDDM).

Delayed interview were carried out by the investigator herself to find out the barriers and compliance of the patients to these barriers by using formats designed for this purpose. The data of present study were analyzed through the application of descriptive data analysis.

Results

Table (1): Demographic characteristics of (100) diabetic patients.

Age (years)	Type I		Type II		Sum	
	No.	%	No.	%	No.	%
10-19	4	8	▪	▪	4	4
20-29	5	10	▪	▪	5	5
30-39	7	14	▪	▪	7	7
40-49	12	24	19	38	31	31
50-59	12	24	16	32	28	28
≥ 60	10	20	15	30	25	25
Gender	**Type I**		**Type 11**		**Sum**	
	No.	%	No.	%	No.	0/
Male	28	56	23	46	51	51
Female	22	44	27	54	49	49
Educational Status	Type I		Type II		Sum	
	No.	%	No.	%	No.	0/
Illiterate	11	22	15	30	26	26
Primary	13	26	9	18	22	22
Secondary	12	24	12	24	24	24
Graduate	14	28	14	28	28	28
Martial Status	**Type I**		**Type 11**		**Sum**	
	No.	O	No.	0/	No.	0/
Single	26	52	24	48	50	50
Married	24	48	26	52	50	50

Table (2) Number of patients and percentage of individuals barriers for the Type I and type II of diabetes

Item of the Barrier	Type 1=50		Type 11-50	
	No.	%	No.	0/
Social barrier (e.g. invitation to social celebration)	37	74	38	76
Unable to control himself from eating	33	66	36	72
Family introduce non – diabetic diet	32	64	33	66
Not believe in diet therapy	40	80	37	74
Work related barriers	33	66	29	58
Social and economic status	30	60	30	60
Battering of diet	40	80	44	88
Independent of time for diabetic diet	39	78	38	76
Lack of knowledge about diabetic diet	36	72	33	66
Dependent on the drugs of diabetic	40	80	42	84
Other reasons	39	78	33	66

Table (3) Number of patients and percentage of individuals barriers according to the Gender in Type 1 diabetes mellitus.

Item of the Barrier	Male = 28		Female = 22	
	No.	00	No.	0/
Social barrier (e.g. invitation to social celebration)	20	71.4	17	77.3
Unable to control himself from eating	18	64.3	15	68.2
Family introduce non – diabetic diet	18	64.3	14	63.6
Not believe in diet therapy	21	75	19	86.4
Work related barriers	18	64.3	15	68.2
Social and economic status	14	50	16	72.7
Battering of diet	21	75	19	86.4
Independent of time for diabetic diet	21	75	18	81.8
Lack of knowledge about diabetic diet	19	67.8	17	77.3
Dependent on the drugs of diabetic	22	78.6	18	81.8
Other reasons	20	71.4	19	86.4

Table (4) Number of patients and percentage of individuals barriers according to the .Martial status in Type 1 diabetes mellitus.

Item of the Barrier	Single = 28		Married = 24	
	No.	0/	No.	0/
Social barrier (e.g. invitation to social celebration)	37	74	38	76
Unable to control himself from eating	33	66	36	72
Family introduce non – diabetic diet	32	64	33	66
Not believe in diet therapy	40	80	37	74
Work related barriers	33	66	29	58
Social and economic status	30	60	30	60
Battering of diet	40	80	44	88
Independent of time for diabetic diet	39	78	38	76
Lack of knowledge about diabetic diet	36	72	33	66
Dependent on the drugs of diabetic	40	80	42	84
Other reasons	39	78	33	66

Table (5) Number of patients and percentage of individuals' barriers for the educational Status

Item of the Barrier	Illiterate N -11		Primary N -13		Secondary N = 12		Graduate N = 14	
	No.	0/	No.	0/	No.	0/	No.	०/०
Social barrier (e.g. invitation to social celebration)	10	90.9	10	79.9	9	75	8	57.1
Unable to control himself from eating	9	81.9	9	69.2	7	58.3	8	57.1
Family introduce non – diabetic diet	9	81.8	8	61.5	8	66.7	7	50
Not believe in diet therapy	10	90.9	10	76.9	11	91.7	9	64.3
Work related barriers	10	90.9	9	69.2	8	66.7	6	42.8
Social and economic status	9	81.8	9.	69.2	6	50	6	42.8
Battering of diet	9	81.8	11	84.6	10	83.3	10	71.4
Independent of time for diabetic diet	10	90.9	10	76.9	10	83.3	9	64.3
Lack of knowledge about diabetic diet	10	90.9	12	92.3	12	100	11	78.6
Dependent on the drugs of diabetic	11	100	12	92.3	8	66.7	9	64.3
Other reasons	10	90.9	11	84.6	10	83.3	8	57.1

O – number, %- percentage

Table (6) Number of patients and percentage of male and female according to the type Π D.M

Item of the Barrier	Male = 23		Female = 27	
	No.	0/0	No.	O
Social barrier (e.g. invitation to social celebration)	16	69.6	22	81.5
Unable to control himself from eating	17	73.9	19	70.4
Family introduce non – diabetic diet	16	69.6	17	62.9
Not believe in diet therapy	18	78.3	19	70.4
Work related barriers	13	56.5	16	59.3
Social and economic status	11	47.8	12	44.4
Battering of diet	19	82.6	25	92.6
Independent of time for diabetic diet	14	60.9	16	59.3
Lack of knowledge about diabetic diet	21	91.3	21	77.8
Dependent on the drugs of diabetic	13	56.5	20	74.1
Other reasons	14	60.9	24	88.9

Table (7) Number of patients and percentage according to martial status among the studied patients in type Π D.M

Item of the Barrier	Single = 28		Married = 24	
	No.	0/	No.	0/
Social barrier (e.g. invitation to social celebration)	18	75	20	79.9
Unable to control himself from eating	19	79.2	17	65.4
Family introduce nondiabetic diet	17	70.8	16	61.5
Not believe in diet therapy	20	74.1	17	65.4
Work related barriers	16	59.3	13	48.1
Social and economic status	16	59.3	17	65.4
Battering of diet	21	*77.8*	23	88.5
Independent of time for diabetic diet	14	51.8	16	61.5
Lack of knowledge about diabetic diet	16	59.3	17	65.4
Dependent on the drugs of diabetic	19	79.2	23	88.5
Other reasons	20	74.1	18	69.2

Table (8): Number of patients and percentage according to the educational status among the studied in type II D.M

Item of the Barrier	Illiterate N -11		Primary N -13		Secondary 12-٢		Graduate -14	
	No.	0/	No.	٥/٥	No.	%	No.	0/
Social barrier (e.g. invitation to social celebration)	**10**	66.7	**9**	100	**9**	75	**9**	64.9
Unable to control himself from eating	**10**	*66.7*	**9**	100	**9**	*75*	**8**	57.1
Family introduce non – diabetic diet	**10**	*66.7*	**9**	100	**8**	*66.7*	*7*	**50**
Not believe in diet therapy	**11**	73.3	**9**	100	**9**	75	**8**	57.1
Work related barriers	**9**	60	*7*	*77.8*	*7*	58.3	**6**	**42.9**
Social and economic status	**8**	53.3	**9**	100	**8**	*66.7*	**8**	57.1
Bothering of diet	**10**	^-1	**9**	100	11	91.7	**12**	**85.7**
Independent of time for diabetic diet	**9**	60	**8**	88.9	*7*	58.3	**6**	**42.9**
Lack of knowledge about diabetic diet	**8**	53.3	**9**	100	**8**	*66.7*	**8**	57.1
Dependent on the drugs of diabetic	**11**	73.3	**9**	100	**11**	91.7	**10**	71.4
Other reasons	*7*	46.7	*6*	66.7	**8**	*66.7*	*7*	**50**

N= number of sample

Discussion

Compliance, which is defined as the degree to which that patient adheres to medical advice (10), has to be high in diabetic in order to control disease and to prevent complication (''). Although, diabetes mellitus is a major health problem (12), compliance seems to be poor (10). In order to improve compliance, it is important to understand the barriers preventing diabetes from being compliant with medical advice. Unfortunately, little work is carried out this vital topic in our society ('''').

Diet and moderate exercise are the first treatment implemented in many patients of type 11 diabetes; weight loss may be important goal in helping them to control their diabetic (10).

In order to improve compliance, it is important to understand the barriers preventing diabetics from being compliant with medical advice. Unfortunately, little work is carried out on the vital topic in our society. Adherence to diet therapy is one of the most difficult problems facing the diabetic patients in our society.

In the present study, many barriers are founded. However, independent of time for diabetic diet, bothering of diet, and not believe in diet therapy were the most common barriers for complacence with diet therapy.

The gender for type I D.M found in male, dependent on the drugs of diabetic, while, in female, found in bothering of diet the most common barriers (table 3).

Concerning marital status, the barriers for singles were depending on the drugs, do not believe in diet therapy and bothering diet the most common barriers, and however in married patients found that the bothering of diet the most common barriers (table 4).

Concerning the education status, the illiterate are faced by the barrier of dependency on drugs of diabetes, while primary school are faced by the barrier of lack of knowledge about diabetic diet and dependency on drugs of diabetes. In secondary school patients, the most common barrier was lack of knowledge about diabetic diet. In graduate patients, lack of knowledge about diabetes diet was the most common barriers (table 5).

However, lest common barriers were the social barrier, unable to control himself for eating, family introduce nondiabetic diet, work relation barrier, social and economic status, and other reasons.

The type n D.M, in male group the lack of knowledge was the most common. In female the bothering of diet was the most common barriers (table 6).

The marital status, the single status were showed in table (7), where the dependent on the drugs. In married group married patients, the bothering and dependent on the drugs of diabetic were the most common barriers.

The educational group patient was showed in Table (8), where in illiterate school are the most facing these barriers, and primary school, while, secondary school, the bothering of diet and depended on the drugs the most common barriers. In graduate, the bothering of diet was the most common barriers.

From the review of literature, there was one study about the social events and behavioral barriers, such as inability of diabetics to control themselves, were the most common barriers for complacence with therapy (13).

Recommendations

Health care setup and social customs play major role in non compliance with medical advice among diabetic in our mange through consultation our various health education means, such as pamphlets, booklets, newspapers and television (medial).

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