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The Use of Complementary and Alternative Medicine among Diabetic Patients in Nasiriya City

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Abstract

Diabetes is a predominant public health concern that has increased steadily worldwide . The disease causes substantial morbidity, mortality and long term complications. Herbs and natural products have been used in treatment of diabetes mellitus . Herbs and other plant products are considered more natural. They are a kind of home treatment and can be a part of home usual diet . Use of herbs is becoming popular more and more and is more appropriate for use in developing countries. The aim of this study was to examine the prevalence of use of herbal remedies among diabetic population in Nasiriya and to identify factors which might predict the likelihood of using herbal remedies. Cinnamon (Darcien) 12.3% and Black cumin(Habba soda) 11% . On univariant analysis , the factors which were found to affect the herbs use were education ,occupation , type of diabetes mellitus , duration of diabetes ,marital status and age . Using data analysis ,the significantly associated factors were occupation type of treatment and drug regularity . Health care providers should respect patients' wishes to use herbal remedies and should provide advices about treatment by herbal remedies.

Keywords: *Alternative medicine, diabetic, patients*

Introduction

Despite recent advanced in care and management, diabetes mellitus continues to be an important public health concern, causing substantial morbidity, mortality and long term complications. [1] with increasing rates of childhood and adult obesity, diabetes is expected to become even more prevalent in coming decades, and its remains a significant risk factor for the Development of cardiovascular disease. [2] The care of persons with diabetes has been influenced by a growing interest in complementary and alternative medicine (CAM).The use of alternative medicine (AM) has increased recently and attracted the attention of many researchers all over the world. [(3,4)]

Definition of diabetes mellitus

Diabetes is a chronic disorder in metabolism of carbohydrates , proteins and fat due to absolute or relative deficiency of insulin secretion ,insulin action or both . [6] According to American Diabetes Association ,diabetes is defined as fasting plasma glucose value of at least 126 mg/dl (7mmol/l) or post glucose load of >_200mg /dl (11.1mmol/l)or both. [5]

Diagnostic criteria for diabetes

The average plasma glucose level of a healthy man is 80mg/dl on fasting and up to 160 mg/dl in the postprandial state . Diabetes mellitus is characterized by recurrent or persistent hyperglycemia , and is diagnosed by demonstrating one of the following :

Fasting plasma glucose level at or above 126mg /dl (7.0 mmol/l)

Plasma glucose at or above 200mg/dl(11.1 mmol/l) two hours after a 75g oral glucose load in a glucose tolerance test.

Random plasma glucose at or above 200mg /dl (11.1 mmol/l). [5]

Tow fasting glucose measurement above 126mg/dl(7.0mmol/l)or random blood sugar level >200mg/dl (11.1mmol/l) on two occasions is considered diagnostic for diabetes mellitus. Patients with fasting plasma glucose between 110_125 mg/dl (6.1_7.0mmol/l)are considered to have impaired fasting glucose and patients with plasma glucose at or 140_200 mg/dl(7.8_11.1mmol/l) tow hours after a 75g oral glucose load are considered to have impaired glucose tolerance . [6]

Classification

Type 1 diabetes : it accounts 10% of diabetes patients, islet B- cell destruction usually leads to absolute insulin deficiency .patients are completely reliant upon exogenous insulin to prevent ketosis and other complications [(6,7)] .

Type 2 diabetes : it accounts for more than 85% of cases worldwide. It is a heterogeneous type ranging from insulin resistance to insulin deficiency.

Type 2 diabetes is a multifactorial disease with both genetic and non genetic components.[(6,7)]

Other specific forms

Genetic defects of B cell function e.g. maturity onset diabetes of the young(MODY Syndromes)

Genetic defects in insulin action e.g. leprechaunism

Disease of the exocrine pancreas e.g. pancreatitis

Secondary to endocrinopathies ,e.g. acromegaly.

Drug or chemical induced , e.g. glucococorticoids

Infections , e.g. congenital rubella

Uncommon forms of immune_mediated diabetes ,e.g. Stiff Man syndrome

Other genetic syndromes associated with diabetes ,e.g. Down ‘s syndrome.

Gestational diabetes : It is the diabetes which develops during pregnancy due to carbohydrates intolerance. [6]

Methodology

The overall study design

This study is descriptive cross sectional study , conducted in Nasiriya city from the period of 1st of January to the 30th of May 2010 on attendants of a diabetic center .

The study population

The participants were diabetic subjects of both gender attending diabetic center in Nasiriya city, who were aged 18 years and above.

Sampling and sample size

All diabetic patients who attending the diabetic center during the period of study were included. The total number was 885(516 females and 369 males). Data collected by direct interviewing, non-response was not reported.

The study tools

Interviewing (The questionnaire)

A structured questionnaire was used (Appendix 1), it was based on extensive literature review and it covers the following aspects :

A_ Sociodemographic data :age ,sex ,marital status ,educational status ,occupation ,monthly family income residence .

B_ Medical history of diabetes mellitus : including complication and control of DM depending on patients documents or reports ,types ,duration ,

Treatment and family history of diabetes .

C_ Information about the use of herbal or alternative medicine were acquired : use of herbal remedies in the last year , the type of herbal medicine ,duration of use ,cause of use and benefit from use .

D_ Type of treatment : Either on diet only ,oral anti diabetic drugs ,insulin alone and those on mixed treatment.

E_ Regularity of drug intake (anti diabetic drugs) : Regular or irregular .

Anthropometric measures :

A_ Height : Height was measured while the subject was standing without shoes with the heels touching the ground .

B_ Body weight : It was measured in (Kg)with the

subject wearing light clothes as possible , by portable weight balance to the nearest 0.5 kg .

C_ Body mass index (BMI) : Calculated by using Quetlet index [40]

BMI =weight in kg /height in square meter

Non obese : BMI < 25 kg /m2

Overweight : BMI 25 _29.9 kg /m2

Obese : BMI > or = 30kg/m2

Morbid obese : BMI > or = 40 kg/m2

Data collection

pilot study

The pilot study was carried out in diabetic center in Nasiriya city on 30 attendants who were included in the proper study . The aim was to asses the time required , the clarity and flow of the question and the expected response rate . In the light of this pilot study , the final proper study was prepared for .

The proper study :

The diabetic center was visited daily from 9_12 a.m. All the patients who visited the center at that time were interviewed in a quiet separate room after an informed consent was obtained. Each interview took about 15 minutes (on average 12 patient per day).

Statistical analysis

D**ata were analyzed** using SPSS version 15 ,the data were tabulated and significant association between different variables .

Result

Table 1 shows the sociodemographic characteristics of the study population. Of the total participants,336(38.0%) were in the age group between 41-55 years , 356(40.1%) were in the age group≥ 56 years , 150(16.9%) were in the age group between 26-40 years and 43(4.9%) were in the age group 18-25 years.58.3% were females and 41.7%were males . The majority were married (77.7%). Most of participants were illiterate (51.3%), (72%)were un employed ,(65%) had intermediate monthly income, and most of them 65.5% were nonsmoker.

Table -1 sociodemographic characteristics of the study population

Character	number	Percent %
Age (years)		
18-25	43	4.9
26-40	150	16.9
41-55	336	38.1
>55	356	40.1
Sex		
Male	369	41.7
Female	516	58.3
Residence		
Urban	691	78.1
Rural	194	21.9
Marital status		
Married	688	77.7
Un married	60	6.8
Other	137	15.5

Cont... **Table -1 sociodemographic characteristics of the study population**

Family size 4≥ 5-10 11 ≤	 124 498 263	 14 56.3 29.7
Education Illiterate Primary Intermediate Secondary Basic university and above	 454 162 95 88 86	 51.3 18.3 10.7 9.9 9.8
Occupation Go. employee Un employee retired	 153 637 95	 17.3 72.0 10.7
Income Low Moderate High	 221 575 89	 25.0 65.0 10.0
Smoking Non smoker Ex-smoker Current smoker	 580 198 107	 65.5 22.4 12.1
Total	885	100.0

Table 2 presents the distribution of the study population according to diabetic and medical history. Regarding the duration of diabetes mellitus most of studied population had 1-5 years duration (48.3%), while those who had diabetes mellitus more than 5 years duration constituted (45.4%), and only 6.3% had a duration of diabetes mellitus less than one year. Most of the patients were with type 2 diabetes (89.6%) , and only 10.4% were with type 1 diabetes . The percentage of those with diabetes complications was 58.9%. Most of the patients were on oral antidiabetic drugs which wae used in 70.8%, those who used insulin were 24.6% . The majority (89.9%) of them were on regular treatment.

Table 2. Distribution of the study population according to diabetic and medical characteristics

Character	**number**	**Percent %**
Duration of DM(year) <1 1-5 >5	 54 426 405	 6.3 48.3 45.4
Type of DM Type 1 Type 2	 92 793	 10.4 89.6

Cont... **Table 2. Distribution of the study population according to diabetic and medical characteristics**

Complication Present Absent	 521 364	 58.9 41.1
Use of antidiabetic treatment Diet Oral Insulin Mixed	 28 627 218 12	 3.2 70.8 24.6 1.4
*Regularity of Treatment Regular Irregular	 796 61	 89.9 6.9
Other chronic disease Present Absent	 423 462	 47.8 52.2
BMI Non obese Overweight Obese	 288 347 250	
Total	885	100.0

Table 3 shows the prevalence of herbal use in thelast year among the study population. 154(17.4%) of the total study population reported use of herbal remedies in the last year , 8.4% of them used herbs regularly .

Table 3 Total prevalence of use of herbal remedies

Users	**Number**	**Percent %**
Users in the last year Irregular Regular	154 80 74	17.4 9.0 8.4
Non users	731	82.6
Total	885	100.0

Table 4 lists the most commonly used herbs and the frequency of their use. The most commonly used type of herbal remedies was a mixed made by herbalist (16.9%), (39.6%) of the participants reported that they used more than one herbs at the same time .

Table 4 The most commonly used herbs and the frequency of their use

English name	Traditional remedy Local name	Latin name	Number	Percent %
More than one type			61	39.6
	Mixture of herbs made by herbalist		26	16.9
Cinnamon	Darcien	-	19	12.3
Black cumin	Hebba soda	Nigella sativa	17	11
Garlic	Thoum	Allium sativa	10	6.5
Aleo vera	Saiber	Aleo vera	6	3.9
Fenugreek	Halba	Trigonella foenumgracum	5	3.2
Worm wood	Sheeh	areimesia	4	2.6
Bitter apple	Hanthal	Momordica chaarantia	2	1.3
	Harmal	Rhazya strica	2	1.3
Kernaels of date	Nawa al tamer	-	1	0.7
Homey	Aasal	-	1	0.7

Table 5 present the factors that affect the use of herbal remedies and attitude of patients toward use of the remedies . The mostly affecting were influence of use by friend (77.3%) and (70,8%) of patients reported that they used them as a supportive mean for treatment of diabetes . (78%) reported they ere satisfied with their use of herbal remedies and (79.2%) perceived that the remedies were beneficial .

Table 5 Attitude and perception of use of herbal remedies

Character	number	Percent %
Influence of use		
By himself	16	10,4
By friend	119	77.3
By family	8	5.2
By media	11	7.1
Cause of use		
Supportive	109	70.8
Loss of confidence wit drug	0	0
Avoid complication	1	0.6
More than on cause	44	28.4
Satisfaction		
No	33	21.4
Not sure	1	0,6
Yes	120	78

Cont... **Table 5 Attitude and perception of use of herbal remedies**

Inform your doctor Yes No	 9 145	 5.8 94.8
Perception of benefit No Yes	 32 122	 20.8 79.2
Total	154	100.0

Table 6 shows the prevalence of use of herbal remedies according to age .Although the percentage of herbal use were higher among patients aged 26-40 years and 41-55 year no significant difference in use was noted according to age .

Table 6 Prevalence of use of herbal remedies according to age

Age	Users		Non _ users		Total	
	number	%	number	%	number	%
18-25	4	9.3	39	90.7	43	100.0
26-40	28	18.7	122	81,3	150	100.0
41-55	62	18.5	274	81.5	336	100.0
56≤	60	16,8	296	83.2	356	100.0
Total	154	17.4	731	82.6	885	100.0

df =4 p value =0.574 $x^2 = 2.903 x^2 = 2.903$

The traditional medicine which include herbal medicine is an accessible and affordable health care resource for many countries including Eastern Mediterranean region .[33] In general people believe that herbal therapy is more modern pharmaceutical . The popularity of the herbs or the treatment of patients with chronic diseases may be attributed to the long standing suffering of the patients or failure of the medical treatment to bring a quick and long lasting .[34]

Conclusions

Herbal remedies are 17.4% used by diabetic patients in Nasiriya. Many factors affect the use of herbal remedies such as occupation, antidiabetic treatment regularity ,educational level ,duration of diabetes and type of diabetes. Most diabetic patients in Nasiriya had a positive attitude with the use of herbal remedies .

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Conflict of Interest: None to declare.

Ethical Clearance: All experimental protocols were approved under the Thi-qar Health Directorate/ Nasiriyah Heart Center and all experiments were carried out in accordance with approved guidelines.

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