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RESEARCH ARTICLE

ASSESSMENT OF THE USE OF COMPLEMENTARY MEDICINE AMONG DIABETIC PATIENTS ATTENDING DIABETIC CENTER IN AL-MADINAH

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Abstract

Background: Diabetes affects approximately 442 million people globally, with the majority living in low- and middle-income nations. Diabetes affects 34.1% of Saudi Arabian men and 27.6% of Saudi Arabian women. More than 400 natural diabetic therapies have been reported around the world. In Saudi Arabia, 45% of individuals use medicinal plants. The goal of our study was to see how often diabetic patients in Al-diabetic Madinah's centers used supplementary medicine.
Methods: This was a descriptive cross-sectional study carried out in the city of Al-Madinah. In 2020, all adult diabetic patients of both genders who visited the diabetic center in Al-Madinah were included. EPI Info was used to compute the sample size, which was 384.
Results: In this study, 362 diabetic patients were enrolled, with 193 (53.3%) of them being female and the remainder being male. The participants ranged in age from 30 to 85 years old, with a mean age of 45.25±12.47 years. Saudi citizens made up the vast bulk of the 332 participants (91.7%). Herbal medicine was not widely used in the previous year, with only 53 people (14.6%) claiming to have used it. Many different types of herbs were utilized, , with Cinnamon 21(39.6%) being the most popular. Patients who utilized herbs based on a friend's recommendation made up 54.7 % of the sample, while those who got them from a traditional healer made up 11.3 %. Surprisingly, 73.6 % of herb users did not tell their doctor they were using herbs. More than 88.7% of the patients said they would like to use herbs again. When the use of herbs was evaluated in relation to patient demographic features and disease status, there were no statistically significant associations between age, sex, nationality, location of residence, patient education, blood sugar control, diabetes mellitus duration, and herb use.
Conclusion: Herbal medicine was not commonly used by diabetes individuals in our study. Cinnamon was the most often used spice among people who utilized it. Saudi nationality and the absence of complications were found to be strong predictors of diabetes patients' usage of supplementary medicines. The government and health-care professionals should be aware of the potential benefits and hazards of herbal medication in diabetic patients. Patients with diabetes should be informed about the risks and advantages of herbal therapy.

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Introduction:-

Diabetes is a set of metabolic illnesses marked by hyperglycemia caused by problems with insulin secretion, insulin action, or both. Diabetes' persistent hyperglycemia is linked to long-term damage, dysfunction, and failure of various organs, particularly the eyes, kidneys, nerves, heart, and blood vessels. (1)

Diabetes is caused by a number of different pathogenic mechanisms. These can range from autoimmune death of pancreatic cells, resulting in insulin insufficiency, to anomalies that lead to insulin resistance. The ineffective action of insulin on target tissues is the cause of anomalies in carbohydrate, lipid, and protein metabolism in diabetes. Inadequate insulin secretion and/or decreased tissue responses to insulin cause insulin deficiency at one or more locations along the complicated hormone action pathways. Insulin secretion and insulin action anomalies frequently coexist in the same patient, making it difficult to determine which aberration, if either, is the major cause of hyperglycemia. (2)

Retinopathy can cause vision loss; nephropathy can cause kidney failure; peripheral neuropathy can cause foot ulcers, amputations, and Charcot's joints; and autonomic neuropathy can induce gastrointestinal, genitourinary, and cardiovascular symptoms, as well as sexual dysfunction. Diabetic people are more likely to develop atherosclerotic cardiovascular, peripheral arterial, and cerebrovascular disease. Hypertension and decreased lipoprotein metabolism are more common in people with diabetes. (1,2)

Diabetes affects approximately 442 million people globally, with the majority living in low- and middle-income nations. (2) Diabetes affects 34.1 % of Saudi Arabian men and 27.6 % of Saudi Arabian women. (3) Furthermore, between 2000 and 2030, the prevalence of diabetes in emerging countries is expected to double. (4) Despite the fact that numerous new options for diabetes treatment have become available, the treatments remain unsatisfactory. Medicines are used in a variety of ways, and their adverse effects on patients are a source of concern. As a result, it's not surprising that some patients seek alternative remedies (traditional herbs), particularly in our Middle Eastern region, where traditional medicine has a long history.

Herbs have long been recognized as viable diabetic treatment options, and many individuals use them today. Herbal medicine has an important role in cultural heritage as well as the appreciation of food and its health implications. (5) More than 400 natural diabetic therapies have been reported over the world. (6) According to a survey conducted in various Saudi Arabian locations, 45 percent of Saudis use therapeutic herbs. (7,8,9).

Furthermore, the difficulty of sticking to a lifestyle regimen and using therapeutic drugs to achieve optimal diabetes management is leading to an increase in the usage of traditional herbs. (10,11) Our study aims to analyze the use of alternative medicine among diabetes patients attending a diabetic center in Al-Madinah in response to the growing usage of herbs.

Methodology:-

This was a descriptive cross-sectional study carried out in the city of Al-Madinah. In 2020, all adult diabetic patients of both genders who visited the diabetic center in Al-Madinah were included. Patients with gestational diabetes were not allowed to participate. EPI Info was used to compute the sample size, which was 384.

Using the Epi info application, which is statistical epidemiology software produced by the Centers for Disease Control and Prevention (CDC). The sample size was calculated using the following formula: Population size according to the International Diabetes Federation: 3852000, Expected frequency is 50%, and the acceptable margin of error is 5%. 95 % confident interval Diabetic patients at Al-diabetic Madinah's center will be interviewed using simple random sampling.

Permission was obtained from Norah A. Al-Rowais to utilize her pre-validated English questionnaire in her research on herbal medicine in the treatment of diabetes mellitus. (8) The questionnaire is divided into two sections, the first of which contains demographic information. The second section discusses disease state as well as herbal use. The data was gathered by the researcher and data collectors doing direct patient interviews.

Before being coded and placed into the computer, all data will be double-checked by hand. The double-entry approach was used to reduce data entry errors in SPSS software. The information was then analyzed using SPSS version 25. For categorical data, the chi-square test was employed, and for numerical data, the T-test was utilized. A result was considered statistically significant if the P-value was less than 0.05.

Before beginning the investigation, a pilot study of 15 diabetes patients was undertaken to assess applicability, practicality, time to completion, and study process. The primary study did not incorporate all of the data collected from these diabetes patients.

The research ethical local committee of al-Madinah health affairs granted ethical permission for this study. The questionnaire also contained a consent form that outlines the study's goal. To facilitate the research work in the diabetes center, a letter from the general supervisor of the training program was requested. The data's anonymity and confidentiality were confirmed.

Results:-

In this study 362 patients with diabetes were included, in which female were 193(53.3%) and the rest were male. Age range from 30 to 85 years, mean age of 45.25±12.47 years. Saudi nationals made up the vast majority of the subjects 332(91.7%).Table 1 showsthe demographic data of the participants.

Table 1:- Showing demographic data of the participants (n=362).

Demographic data	Frequency	Percentage
Age		
<30	55	15.19%
30-44	59	16.29%
45-59	139	38.39%
60-75	103	28.45%
>75	6	1.65%
Gender		
Male	169	46.68%
Female	193	53.31%
Nationality		
Saudi	332	91.71%
Non-Saudi	30	8.28%
Place of residence		
Urban	333	91.98%
Rural	29	8.01%
Patient education		
Illiterate	53	14.64%
Read & write	53	14.64%
Primary	53	14.64%
Secondary	117	32.32%
Higher education	86	23.75%
Type of diabetes mellites		
IDDM	80	22.09%
NIDDM	282	77.90%
Presence of major complication		
Yes	115	31.76%
No	247	68.23%
Duration of DM		
<5	84	23.20%
5-9	74	20.44%
10-14	77	21.27%
15-19	64	17.67%
20-24	36	9.94%

>25	15	4.14%

Insulin was used by nearly a third of the participants (22%). When asked how their blood sugar control had been during the previous year, 40% said it had been varied, 30% said it had been good, and 30% said it had been bad.

The usage of herbal medication was not uncommon in the previous year, as 53 individuals (14.6%) said they had used it. There were many different types of herbs used, but the most common are listed in table 2, in which the most common was Cinnamon 21(39.6%), followed by Fenugreek 14(26.4%).

Table 2:- The most commonly used herbs as antidiabetics and the frequency of their use by patients. (n=53).

Type of herb	Frequency	Percentage
Cinnamon	21	39.6%
Fenugreek	14	26.4%
Anise	3	5.7%
Moringa	4	7.5%
Myrrh	4	7.5%
Others	7	13.2%

Table 3 shows the questions we asked patients who took herbs to learn more about its use (who prescribed it, how often they used it, presence, or absence of adverse effects, whether it was used in conjunction with prescription treatment, intent to use it again, and patient satisfaction). Patients who used herbs on the recommendation of a friend accounted for 54.7% of the sample, while those who received them from a traditional healer accounted for 11.3%. Interestingly, 73.6% of herb users did not inform their doctor about their use of herbs.More than 88.7% of the patients indicated they want to take herbs again.

Table 3:- Characteristics of the use of herbs (n=53).

Characteristics	Frequency	Percentage
1.How often you use herbal medicine?		
a.Daily	18	34%
b.Weekly	18	34%
c.Other	17	32%
2.Who prescribe it to you?		
a.Traditional healer	6	11.3%
b.Friend	29	54.7%
c.Other	18	34%
3.Did you experience any side effects?		
a.No	52	96.2%
b.Not sure	1	3.8%
4.Are you satisfied with it?		
a.Yes	41	77.4%
b.No	6	11.3%
c.Not sure	6	11.3%
5.Do you use it with other prescribed medicine?		
a.Yes	41	77.4%
b.No	7	13.2%
c.Sometime	5	9.4%
6.Do you inform your doctor about the use of herbal medicine?		
a.Yes	14	26.4%
b.No	39	73.6%
7. Do you intend to use it again?		
a.Yes	47	88.7%
b.No	6	11.3%

There were no statistically significant relationships between age, sex, nationality, place of residence, patient education, blood sugar control, diabetes mellitus duration, and herb use when the use of herbs was studied in relation to patient demographic characteristics and disease status, as shown in Table 4.

Table 4:- The use of herbal medicine, by demographic characteristics and disease status (n=362).

Variable	Frequency	Herbal medicine use %	X 2 - value	P value
Age				
<30	55	7.3	3.06	0.54
30-44	59	16.9		
45-59	139	16.5		
60-75	103	14.6		
>75	6	16.7		
Gender				
Male	169	11.8	1.998	0.103
Female	193	17.1		
Nationality				
Saudi	332	16	5.61	0.007
Non-Saudi	30	00		
Place of residence				
Urban	333	14.7	0.179	0.916
Rural	29	14.3		
Patient education				
Illiterate	53	15.1	0.552	0.968
Read & write	53	15.1		
Primary	53	11.3		
Secondary	117	15.4		
Higher education	86	15.1		
Type of diabetes mellites				
IDDM	80	8.8	3.06	0.216
NIDDM	282	16.4		
Presence of major complication				
Yes	115	8.7	4.76	0.019
No	247	17.4		
Duration of DM				
<5	84	14.3	1.60	0.901
5-9	74	17.6		
10-14	77	15.6		
15-19	64	10.9		
20-24	36	13.9		
>25	15	20		
Missing	12			

Discussion:-

Herbs have long been used to cure a variety of ailments. Doctors must continue to investigate this topic in order to understand the benefits and drawbacks of herbs for their patients. Herbs are widely used to treat diabetes since they are believed to play a function in the illness. According to this survey, 14.6 % of diabetic individuals used herbs in the previous year. The actual proportion could be greater if the herbal use study was extended beyond three months. Although the bulk of these patients had a long list of herbs, just a handful of them used them on a daily basis. The popularity of herbs for treating chronic diseases can be related to the disease's long history (6).

The most widely used herbs among our patients were cinnamon, fenugreek, anise, moringa, and myrrh. Nopal and aloe vera were commonly utilized in another study in the United States, while blueberry was the most regularly used

in Canada. (13) This disparity could be owing to the availability of specific herbs in various group traditions, which could influence their decision. 54.7% of the patients in this study took the herbs on the advice of a friend, highlighting the importance of community health education. If diabetics are given good health education, a higher percentage of them will tell their doctors about their herbal use. 73.6 % of herbal users did not tell their doctor about their use, according to the survey. When it comes to herbs, 77.4% of herb users are satisfied, and 88.7% of them want to use them again. In this investigation, herb use did not appear to have a meaningful relationship with blood sugar control. It should be mentioned that there were no tests to identify whether or not a patient's blood sugar level was under control, and the patient's response was entirely up to them. Doctors may be unfamiliar with the herbs that their patients utilize. This is not to say that the issue should be overlooked, as many patients rely on them. On the other hand, numerous researchers have looked at the anti-diabetic effects of several herbs and plants; nevertheless, the herbal treatment's safety and efficacy have yet to be confirmed. (14,15)

Patients may be hesitant to tell their doctors about herbs because of doctors' negative opinions against them. As a result, clinicians with a more favorable attitude may urge patients to provide more information about their herbal use. The study's limited sample size, as well as the fact that all of the patients were from the diabetes facility in al-Madinah Almunawarah rather than the broader community, is one of its flaws.

It's crucial since community people may not visit the diabetic clinic on a regular basis and may utilize herbs in a variety of ways. Finally, diabetes is a disorder that requires the usage of herbs. Doctors caring for diabetes patients should be aware of this and encourage their patients to discuss the use of herbs with them, as it may affect the disease's outcome and management.

Conclusion:-

Herbal medicine was not commonly used by diabetes individuals in our study. Cinnamon was the most often used spice among people who utilized it. Saudi nationality and the absence of complications were found to be strong predictors of diabetes patients' usage of supplementary medicines. The government and health-care professionals should be aware of the potential benefits and hazards of herbal medication in diabetic patients. Patients with diabetes should be informed about the risks and advantages of herbal therapy.

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