Original Article

An Analysis of Nutritional Awareness among Diabetic Patients

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Abstract: The purpose of our study is to evaluate diabetic patients' nutritional knowledge. At the Mayo Hospital in Lahore, 183 diabetes patients participated in a cross-sectional survey. An approach known as non-probability convenience sampling was used to choose the participants. The information was gathered via a closed-ended, structured questionnaire. A clear informed consent process ensured the autonomy and secrecy. Data analysis was carried out using the SPSS-26 program. In total, 183 patients were included in the research. There were 74 (40.4%) female subjects and 109 (59.6%) male subjects. The largest percentage of patients (30.6%), or 56, belonged to the 55–64 age group. Only 10 (6% of the total individuals) were not following any special diet, whereas 88 (48%) and 85 (46%) of the subjects were not eating any sugar or cholesterol. Of the participants, only 105 (57%) believed that brown sugar was a healthier substitute for white sugar, while 27 (15%) disagreed and 37 (28%) were unsure. The majority of participants—147, or 80.3%—agree that diet can help control diabetes-related problems, although 41, or 19.7%, were unaware of this idea. It is necessary to implement interventions including nutrition education and awareness campaigns to advance health, postpone the onset of diabetes, and avert future consequences from diabetes.

Keywords: nutrition, awareness, diabetes mellitus

1. INTRODUCTION

Type II diabetes is a long-term metabolic disorder characterized by high blood sugar caused by a combination of insulin resistance, and relative insulin deficiency [1]. Nutrients are the substances that are required for health and growth and the process of intake of such substances is termed as Nutrition. Diabetes is one of the most common diseases in Pakistan. According to the Diabetes Prevalence Survey of Pakistan (2017), 35.3 million people among the adult population are suffering from this disease bringing the prevalence to 16.98% [2]. This research aims to assess the nutritional awareness in diabetes mellitus type 2 patients. Awareness of the patient regarding their disease helps not only to reduce the burden of the disease but also to prevent its complications. Diabetes is a silent disease and the majority of cases of diabetes go undiagnosed, mainly due to lack of knowledge. A study conducted in India in 2010, found that more than 50% of the study subjects did not know of the condition called Diabetes and about 35% of the diabetic population did know that the disease is preventable [3]. A Research undertaken in Egypt (2015) found that despite the high prevalence of diabetes in the area, patients were lacking an understanding of

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the importance of diet in the management of diabetes. Only one-third of diabetic patients were aware of diet planning to better manage their disease [4]. Regarding diet planning and adherence, a study shows that only 1.85% of the subjects responded positively to following a diet plan at home, and a mere 22.2% of people believe that a controlled diet helps in the maintenance of blood glucose [5]. It has been found that poor knowledge about nutrition can lead to poor glycemic control in diabetics. 72% of respondents answered incorrectly when questioned regarding foods to be consumed [6]. A study concluded that there was a significant positive association between knowledge regarding diet and self-care practices. The findings indicate that good nutritional knowledge leads to healthy eating [7]. A study conducted in Karachi among the urban diabetic population about the knowledge, attitude, and self-care practices shows a severe lack of concern of people about their disease. Only about 12.9% of the subjects under study knew that diabetes can be prevented [8]. Another study conducted in Islamabad in 2009 found that only (43%) of adults in a rural population had any awareness of diabetes mellitus [9]. The high prevalence of diabetes in Pakistan demands that an intensive study should take place to determine the contributing factors, especially nutritional aware- ness. Even though the influence of lifestyle on diabetes has been studied, there is no notable work regarding the diabetic population's knowledge of nutrition, in particular. This research intends to alleviate this dearth of information provides data on which new studies can be based. Such data is important to plan public health programs to prevent and possibly reduce the occurrence of Diabetes. Our findings will suggest whether there is a need for nutritional education to raise awareness about factors influencing glycemic control among diabetics.

2. MATERIALS AND METHODS

Researchers employed a cross-sectional quantitative survey approach to find out how well-informed diabetic patients were about diet. Patients with diabetes who attended the Mayo Hospital in Lahore between June and September of 2021 served as the participants. Utilizing a closed-ended questionnaire, data was gathered. To choose the participants, a non-probability convenience sampling method was applied. The questionnaire asked questions about nutrition awareness as well as demographic information (age, gender, and educational status). A total of 183 people took part in this study. Subjects who volunteered to take part in this study provided data. Prior to the collection of data, the participants provided their informed consent. Using SPSS-26 software, descriptive statistics were employed for data analysis.

3. RESULTS AND DISCUSSION

The patients' demographic features were displayed in Table 1. There were 183 participants in all for the study. Men were more likely than girls to participate (Table 1). Out of the 183 participants in the study, 109 (59.6%) were men and 74 (40.4%) were women. Of the patients, 169 (92%) reported using anti-diabetic medication, while 11 (6%), said they did not take any medicine at all.

TABLE 1 Demographics of patients

Age	Frequency	Percentage %
18-24	7	3.8%
25-34	4	2.2%

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35-44	22	12%
45-54	42	23%
55-64	56	30.6%
65-75	37	20.2%
Above 75	15	8.2%

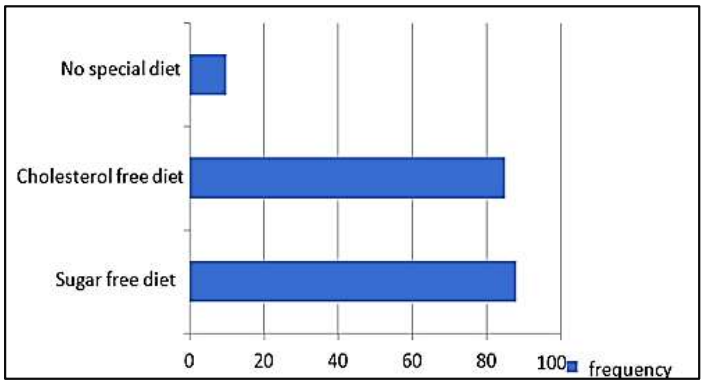

Figure 1 Frequency of patients on specific diet

As seen in Figure 1, 88 (48%) of the participants were on a sugar-free diet, and 85 (46%) were on a cholesterol-free diet. Only 10 (6%), however, were not on any special diet. The results of the survey on food component awareness are displayed in Table 2. It reveals that 93 (51%) of the participants were unsure that rice includes carbohydrates, and 77 (42%) were unsure that chapatti is a significant source of carbohydrates. Additionally, it reveals that whereas 37(20%) people are unsure if margarine is high or low in fat, 71(40%) individuals believe that eggs are low in fat. Additionally, 79 (43%) of the participants believed butter to be low in protein, while 86 (47%) were unsure. Based on Table 3, 105 participants (or 57% of the total) believe that brown sugar is a healthier substitute for white sugar, while 27 individuals (15%) disagree and 37 participants (28%) are unsure. Of the participants, 147 (or 80.3%) agreed that nutrition can help control diabetes-related problems, whereas 41 (19.7%) were unsure. Figure 2 demonstrates that while 41 participants (23%) are unsure, 142 individuals (78%) believe that exercise can control blood sugar levels. In reference to the recently developed notion that a diabetic need to consume small, frequent meals rather than the typical three meals, 127 participants (or 70%) agreed with the notion, 3 participants (or 2%), disagreed, and 53 participants (or 28%) were unsure. This cross-sectional study just states a hypothesis for further investigation; it is unable to establish causal correlations. This study has limitations because it was limited to outpatients and only included patients from one hospital in one development region; as a result, it cannot be applied to the entire diabetes community.

TABLE 2 Frequency of food awareness composition

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	Foods	High (%)	Low (%)	NOT SURE(%)
Are these foods highor low in carbohydrates?	Porridge	51(27.9%)	49(26.8%)	**83(45.4%)**
	Chappati	66(36.1%)	24(13.1%)	**93(50.8%)**
	Rice	70(38.3%)	36(19.7%)	**77(42.1%)**
	White bread	69(37.7%)	34(18.6%)	**80(43.7%)**
	Nuts	29(15.8%)	48(26.2%)	**106(57.9%)**
	Cheese	36(19.7%)	38(20.8%)	**109(59.6%)**
	Meat	83(45.4%)	56(30.6%)	**44(24%)**
	Margarine	146(79.8%)	0	**37(20.2%)**
Are these foods highorlow in fat?	Honey	22(12%)	78(42.6%)	**83(45.4%)**
	Egg	52(28.4%)	71(38.8%)	**60(32.8%)**
	Cheese	78(42.6%)	44(24%)	**61(33.3%)**
	Bread	25(13.7%)	76(41.5%)	**82(44.8%)**
Are these foods highor low in protein?	Chicken	138(75.4%)	10(5.5%)	**35(19.1%)**
	Cheese	17(9.3%)	53(29%)	**113(61.7%)**
	Cream	8(4.4%)	82(44.8%)	**93(50.8%)**
	Egg	123(67.2%)	8(4.4%)	**52(28.4%)**
	Butter	**18(9.8%)**	**79(43.2%)**	**86(47%)**

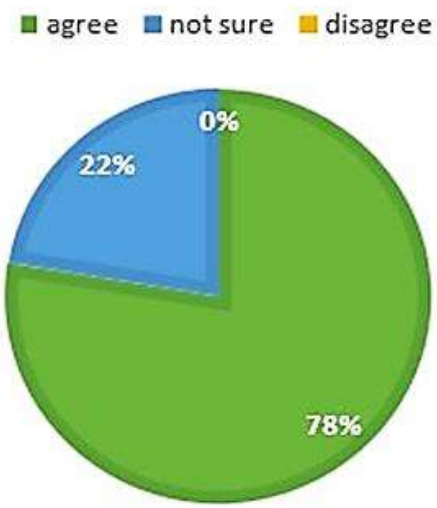

Figure 2 Frequency of Exercise involvements in balancing blood sugar level

TABLE 3 Frequency of opinions on brown sugar and white sugar

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Variables	Agree(%)	Disagree(%)	Not sure(%)
Brown sugar is a healthy alternative to white sugar.	105 (57.4%)	27(14.8%)	**51(27.9%)**
There is more protein in a glass of whole milk than in skimmed milk.	68(37.2%)	13(7.1%)	**102(55.7%)**
There is more calcium in a glass of whole milk than in skimmed milk.	51(30%)	19(10%)	**113(60%)**
Diet can help control complications caused by diabetes.	147(80.3%)	0	**36(19.7%)**
A glass of fruit juice is same as a serving of fruit.	**51(27.9%)**	**95(51.9%)**	**37(20.2%)**

4. CONCLUSION

In order to attain improved control and prevention of diabetes and its consequences, the study highlights the need for increased education and awareness among the diabetic population regarding the significance of food and exercise. The prevalence of diabetes is rising daily, so it is important to implement the required measures to enhance health, such as nutrition education and awareness campaigns. Policies for health education about the significance of diet for the prevention of complications associated to diabetes should be established by the government and non-governmental organizations. To raise awareness, print and electronic media can be employed.

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