Food Processing & Nutritional Science

Research Article | Vol 4 Iss 1

Knowledge, Attitude and Practices of Diabetes Mellitus Patients

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Received: May 05, 2023; Accepted: May 22, 2023; Published: May 29, 2023

ABSTRACT

The prevalence of diabetes has risen rapidly all over the globe at an alarming rate. Over the three decades, the status of diabetes has changed from being considered as a mild disorder of elderly to one of the major causes of morbidity and mortality affecting the youth and middle-aged people. It is important to note that the rise of disease is seen in all six inhabited continents of the globe. Type 2 diabetes results from a genetic predisposition and from lifestyle factors, especially those of the so-called western lifestyle, characterized by high calorie intake and little or no exercise. Also known as non-insulin-dependent or adult-onset diabetes, this form of the disease is far more common than type 1 (insulin dependent or juvenile-onset) diabetes.

KEYWORDS

Nutrition; Diabetes; Attitude; Diet

INTRODUCTION

Diabetes is a group of metabolic diseases characterized by high blood glucose levels that results from defects in the body's ability to produce or use insulin. The World Health Organization (WHO) estimates that nearly 200 million people all over the world suffer from diabetes and this number is likely to be doubled by 2030 [1]. The estimate of the actual number of diabetics in India is around 40 million. This means that we have the highest number of diabetics of any one country in the world. As the number of people of with diabetes is growing, the disease is taking an over increasing proportion on budgets. It is the most common leading cause of death in most high-income countries. Over the past few decades, diabetes has become a major health problem worldwide, reaching epidemic proportions in many developing countries including India [2]. According to an article entitled no longer the prosperity Indian, the median age when an urban Indian is likely to develop diabetes is falling alarmingly. Indian men and women in their mid-30s and early 40s are showing full blown symptoms of a type of diabetes that usually occurs only much later in other parts of the world. Diet control in diabetes tends to have empirical aspects. Effective dietary practice not only reduces the risk of developing diabetes but also delays the progression and controls the disease in frank diabetics. It is associated with abnormalities in carbohydrate, fat, and protein metabolism, and results in chronic complications, including microvascular, macrovascular, and neuropathic disorders. The prevalence of DM has risen dramatically over the past two decades. It is estimated that the prevalence of diabetes in adults worldwide will rise to 5.5% in 2025 (as compared to 4% in year 1995), with India contributing the major part. The present study was undertaken to assess the knowledge

Citation: Shalini Dwivedi, Knowledge, Attitude and Practices of Diabetes Mellitus Patients. Food Proc Nutr Sci 4(1): 8-11.

attitude and practices regarding diet of diabetes mellitus patients [3-5].

MATERIALS AND METHOD

A cross sectional study was conducted with an aim for determining nutritional knowledge, attitude and practice of 95 diabetic subjects at a specific point in time of Varanasi, Uttar Pradesh. The study subjects were selected through purposive sampling from different areas of BHU, Varanasi. A previously validated questionnaire that was used to assess the knowledge, attitudes, and practices (KAP) regarding diabetes mellitus. The schedule did not contain any questions which can reveal the identity of patients and written consent was taken. The interviewer did not in any way try to improve the knowledge of respondents. Schedules with incomplete data and unwilling patients were excluded.

The first part of the survey included the demographics of the participants. Data included gender, age, level of education, socio economic status, and occupation. Participants were also asked whether their occupation and education were related to the medical field. Questions regarding knowledge and attitude towards diabetes mellitus like related to the risk factors, diagnosis, prevention, symptoms and complications of diabetes mellitus, dietary pattern, habit were asked. Data such as gender, age, level of education, and income, were summarized using counts and percentages. Mean and standard deviation were used to summarize continuous data when appropriate. Outcome variables were Knowledge, Attitude and Practice. All collected information was anonymous and did not contain the patient's identity. If they did not want to answer any question they were allowed to skip. Data was coded and analysed using Microsoft Excel.

RESULTS

The study was conducted on 95 subjects out of which 58.9% were male and 41.1% were females. 97.9% subjects were Hindu and 2.1% were Muslim by religion. Age-wise distribution of respondents is shown in table 1. 5.3% of respondents were married, 89.5% were unmarried and 5.3 were separated. Among all participants 56.8% were vegetarian while 43.2% were non vegetarian. The mean height and weight of patients was 158.3 ± 8.4 cm and 62.9 ± 11.3 kg respectively. Among all the cases 71.4% male and 64.1% female were sedentary worker and 28.6% male and 35.9% female were moderate worker.

Age	No. of Respondents
20-30	5 (5.3%)
30-40	4 (4.2 %)
40-50	26 (27.4 %)
50-60	36 (37.9 %)
>60	24 (25.3 %)

Table 1: Age wise distribution of diabetes mellitus patients.

There is increasing amount of evidence that patient education is the most effective way to lessen the complications of diabetes (Table 2).

Socioeconomic Status	% of Respondents
Higher	-13.68
Middle	-86.3
Education level	
Illiterate	-2.1
Primary	-4.2
Middle	-6.3
10^{th}	-14.7
10+2	-26.3
Graduation + PG	-41.1
Professional	-5.3

Table 2: Distribution of respondents according to their socioeconomic status and education level.

Knowledge regarding diabetes forms the basis for informed decisions about diet, exercise, weight control, blood glucose monitoring, use of medications, foot and eye care, and control of macro vascular risk factors (Table 3 - Table 8).

Type of Work	Male	Female
Sedentary	-71.4	-64.1
Moderate	-28.6	-35.1

Table 3: Distribution of respondents according to their type of work.

Knowledge Regarding Dietary Habits	Percentage
Knowledge about food intake	-92.63
Green leafy vegetables included in the diet	-93.7
Non consumption of sugar	-32.6
Dietary Pattern	
Vegetarian	-56.8
Non vegetarian	-43.2

Table 4: Percentage of diabetic subjects' knowledge regarding dietary habits.

Awareness about Complication	Percentage
Cataract & retinopathy	58.9
Neuropathy	32.6
Nephropathy	36.8
Hypertension & heart disease	36.8

Table 5: Distribution of respondents regarding awareness about complication of disease.

Symptom of Disease at the Time of Detection	Percentage
Routine examination	2.1
Swelling of feet	20
Frequent urination	74.7
Increased thirst	65.3
Increased appetite	46.3
Defective wound healing	21.1
Tiredness	16.8
During operation	12.6
Sweating	7.4

Table 6: Knowledge of diabetes symptoms and complications.

Etiological Features	Percentage
Knowledge regarding obesity	71.5
Habit of exercise	42.1
Heredity	53.68
Fear of death	43.2
Type of Perceived Stress	
Anxiety	15.8
Mental stress	52.6
Sleep disturbances	34.7

Table 7: Percentage distribution of respondents regarding etiological features of diabetes.

Attitude and Practices of Diabetic Patients	Percentage
Do you include fruit in your diet daily	57
Are you following a controlled diet	69.3
Do you regularly take your medications	72.5
Do you regularly check your blood glucose level	78
Do you check your blood pressure regularly	54.7
Do you regularly check your feet	41
What Type of Therapy you are Using	
Oral medications	20.2
Insulin	37
Herbal	29.2
Diet control	56.7

Table 8: Percentage distribution of subject's attitude and practices towards diabetes.

DISCUSSION

Excess sugar consumption is a major contributor to diabetes and a critical public health issue in India. A simplistic approach for reducing sugar is to increase population level awareness that most are getting too much sugar. However, changing dietary intake in a population that has adopted a high sugar diet is not easy and requires a number of complementary strategies. The management of diabetes not only requires the appropriate nutritional knowledge but also healthy dietary practices with a positive attitude towards the disease [7].

In India, the older members of the population who have had diabetes for a relatively long time are protected from risk of diabetic complications because of their physical activity patterns and dietary habits (making healthier food choices), while the current younger generation face high risk of diabetic complications due to a sedentary and stressful lifestyle. Over the past few years, the working patterns have changed, with fewer people involved in manual labor (e.g., as in the agriculture sector) and more and more people opting for physically less demanding office jobs. Another factor for the increase in risk for diabetes mellitus is the 'fast food culture' that has overwhelmed our cities and towns. The 'fast foods' that are rich in fats and calories are readily available in numerous food shops. As the majority of the young working population depend on these unhealthy 'junk foods,' this may partly explain the rise in diabetes incidence in the younger age-groups [8].

The study was conducted on 95 diabetic patients. The average age was between 50 years - 60 years (37.9 %). It was observed that almost 86 % respondents belong to middle income group and only a few (13.68%) were from the higher income group. It can be concluded that there were no lower-class people with diabetes which shows that the risk of this disease increases as the economic status increases. Only 2.1 % were found illiterate. Previous research has shown that patient education adds value to diabetes management and that specific interventions aimed at improving patient knowledge can improve diabetes control. WHO (1980) reported that in diabetes mellitus heredity, age, sex, obesity, environmental factors, infections and stress are known to be influencing factors. It was found that majority of male and female were engaged in sedentary kind of activity i.e., 71.4% 64.1% respectively [9].

It was encouraging to learn that more than 90% of respondents were aware of their food intake and used to eating healthy meals. The number of vegetarians (56.8%) was slightly more than the non-vegetarians (43.2%). In diabetics, majority of the males (98.27%) and 97.4% females had self-realization of disease. The majority (73.7%) had poor knowledge of disease. About one third of the patients had knowledge about the complications of disease like neuropathy, nephropathy and hypertension etc. 58.9% of subjects were about cataract and retinopathy as a complication. About 92.63% of the patients had knowledge about the type of food consumed by them. There was highly significant difference between male and female regarding habit of exercise. The maximum females do not have habit of exercise. They say that their household work is so much that they do not need it. The majority, 38.9% went for medical checkup only once in two months. 42.1% had a belief in ayurvedic medicines [10].

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