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Original Research Article

Assessment of knowledge, attitude and practice towards diabetes among type 2 diabetes patients in rural Mysuru

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ABSTRACT

Background: Type 2 diabetes mellitus is considered one of the most frequent disease in the world. Diet and its practice, sedentary way of life are the key factors for rapidly rising incidence amongst developing countries. It is better controlled when people are aware of the pitfalls of the condition and improve their nutritional knowledge, attitude, and habits as a whole. As well, as to encourage patients to improve their diet, an appropriate self-care practice and to enhanced a good quality of life.
Methods: Across sectional study was conducted at rural primary health center, suttur, Mysore. Type 2 diabetes (having for >1 years) aged between 18-70 years formed the study population and whose consented were interviewed in details to understand their knowledge, attitudes and practice regarding diabetic diet, risk factors and symptoms. Analysis performed using IBM SPSS 23.0.
Results: A total of 384 participants took part in study. The mean knowledge, attitude and practice scores were 3.15±1.84, 1.66±0.927 and 3.65±0.488, respectively. Among the study participants, 192 (50%), 269 (70.1%) and 248 (64.6%) had good knowledge, attitude and practices towards diabetes.
Conclusions: It is one such type of disease which can be prevented at various levels by identifying predictors like BMI, physical activity, quantity of sleep, etc. Diabetic patients had poor dietary practices and consumed protective foods inadequately. Still there is a lot of gap in their knowledge, attitude and practice on diabetes which have to be addressed them by educating them.

Keywords: Dietary pattern, Knowledge, Attitude, Practice, T2DM, Suttur

INTRODUCTION

Type 2 diabetes impacted approximately 462 million people worldwide in 2017, accounting for 6.28 percent of the global population in which 4.4 percent of those aged between 15 to 49 years, 15 percent of them aged 50 to 69 years. Incidence raises to approximately 55 years of age, and the gender distribution is equal. This disease is accountable for almost 1 million deaths in 2017 with 9th leading risk factor of death.[1] Diabetes has a multifaceted aetiology in India, comprising genetic components as well as environmental variables such as obesity linked to rising living standards, rapidly increasing migration, and lifestyle changes.[2] The disparity in the distribution of health resources between urban and rural areas, and rural poverty may be multi-faceted. Food hardship, illiteracy, inadequate sanitation, and the prevalence of infectious diseases may all play a role, implying that policymakers and local governments are undermining and under prioritizing the emerge of diabetes threat.[3]

Diabetes awareness and education programmes are vital components of diabetes management.[4] There is now a indisputable proof that diabetes education and self-care motivation enhance diabetes treatment, lowers the

diabetic complications, and hence lessens the country's fiscal burden.[5] Diabetic management, such as adherence to food and medication regimens, blood glucose monitoring, self-administration of insulin, maintaining a healthy weight, blood pressure, and recognising symptoms of glycosuria and hypoglycemia, are all key aspects of secondary prevention.[6]

However, the majority of diabetic patients experience difficulty in identifying the necessary quality and quantity of food to eat, and that many are ignorant of the importance of diet in maintaining glycemic control.[7-9] It is necessary to establish and execute effective nutrition counselling practises for diabetes patients about information on the qualitative and quantitative aspects of diet and meal patterns. Such information would make it easier for health care practitioners to teach patients how to adhere to their diets. Simultaneously, focus should be placed in establishing environments that promote a healthy lifestyle. In India, diabetes awareness and education are truly lacking. Hence, this study was conducted to assess the general characteristics of type 2 diabetes patients and their baseline knowledge, attitude and behaviour towards diabetes mellitus.

METHODS

A cross sectional study was conducted over a period of 6 months from December 2020 to May 2021 in rural field practice area of JSS medical college, Suttur, Mysuru. Assuming that people consume 4-6 meals per day and requiring a absolute precision of 5%, with confident interval of 95%, a minimum sample size of 374 has been collected.[10]As more responses were obtained, total of 384 subjects were interviewed, in the age group of 18 years and above who are registered in rural primary health centre Suttur and subjects with type 2 diabetes diagnosed more than 1 year. While patients who are seriously ill, pregnant and lactating women were excluded from the study.

The questionnaire included questions on demographic characteristics like age, education, gender, marital status, religion, and questions related to knowledge, attitude and practice towards diabetics. The knowledge questionnaire consisted of 11 questions regarding diet, risk factors and symptoms. Assessment of attitude and practice towards diabetes included prevention measures, and question related to false news. The questionnaire originally made in English was translated and back translated to and from Kannada to ensure appropriateness of translation. The questionnaire was also pilot tested before the actual start of the study.

Data were analyzed using SPSS version 24 (licensed to JSS AHER). Age, knowledge, attitude, and practice scores are expressed as mean and standard deviation. Questions about knowledge, attitude, and practices were expressed as frequencies and percentage.

KAP scoring

For every correct answer a score of 1 was given and score of 0 for every wrong answer and the mean score and standard deviation was calculated for knowledge, attitude, and practice. The participants who had scored more than mean scores were considered as good and less than mean score was considered poor.[11]

RESULTS

Demographic characteristics of the participants are presented in (Table 1). Among the 384 participants,165 (43%) were male and 219 (57%) were female. Majority of them were in the age group of 31 to 50 years (51.6%) and most of them belonged to Hindu religion (99.7%), 70.3% were illiterate, 55.5% of subjects belonged to class V socio economic status, 47.9% were having diabetes between 1 to 3years.

Table 1: Demographic characteristics and duration of diabetes (n=384).

Variable	Groups	N	%
Gender	Male	165	43
	Female	219	57
Age (years)	18-30	4	1
	31-50	198	51.6
	51-0	146	38
	>70	36	9.4
Education	Illiterate	270	70.3
	Lower primary	44	11.5
	Higher primary	24	6.3
	Preuniversity/diploma	12	3.1
	Graduation	32	8.3
	Postgraduation	2	0.5
Religion	Hindu	383	99.7
	Christian	1	0.3
Socio Economic status	Class I	15	3.9
	Class II	81	21.1
	Class III	23	6.0
	Class IV	52	13.5
	Class V	213	55.5
Duration of diabetes (years)	1-3	184	47.9
	3-5	147	38.3
	5-7	45	11.7
	>7	8	2.1

Among the participants, 51.3% participants know that diabetes mellitus is hereditary, 37.8% said diabetes diet is healthy diet, 83.1% know eating too much sugar and other sweet foods is a cause of Diabetic mellitus. While 71.6% said Drug is not more important than diet control and 34.4% know that maintaining a healthy weight is important in the management of diabetes. And 37.8% knew to test for glucose more often if they are sick with flu. over all only 114 (29.7%) participants know the Cut off points for blood sugar level. Mean knowledge score of study participants were 3.15±1.84 (Table 2).

Table 2: Assessment of knowledge towards diabetes.

Answer on knowledge about diabetes	Yes		No		Mean±SD
	N	%	N	%	
Is diabetes mellitus hereditary	197	51.3	187	48.7	3.15±1.84
The diabetes diet is healthy diet for most of the people	145	37.8	239	62.2	
Eating too much sugar and other sweet foods is a cause of diabetic mellitus	319	83.1	65	16.9	
Drug is more important than diet control	109	28.4	275	71.6	
When you are sick with flu you should test for glucose more often	239	62.2	145	37.8	
Maintaining a healthy weight isn't important in the management of diabetes	252	65.6	132	34.4	
Do you know the cut off points of hyperglycemia	114	29.7	270	70.3	

Table 3: Assessment of knowledge towards diabetes.

Knowledge about diabetes	Variables	N	%
What should be done to control diabetes	Dietary modification+regular medication	242	63.0
	Regular medication	108	28.1
Risk factors for diabetes mellitus	Family history	139	36.2
	Don't know	233	60.7
How can diabetes be detected	Blood test	231	60.2
	Blood test+ urine test	134	34.9
What are the symptoms of diabetes	Polyuria	29	7.6
	Numbness in feets	91	23.7
	Can be asymptomatic	41	10.7
	Don't know	180	46.9

Table 4: Assessment of attitude towards diabetes.

Answer on attitude about diabetes	Yes		No		Mean±SD
	N	%	N	%	
Believed it can be controlled	305	79.4	79	20.6	1.66±0.927
Diet and exercise are not as important as treatment in control of diabetes	106	27.6	278	72.4	
Being drunk while on diabetic drugs is not a serious problem	328	85.4	56	14.6	

Table 5: Assessment of practice towards diabetes.

Answer on practices about diabetes	Yes		No		Mean±SD
	N	%	N	%	
You are empowered to control / avoid sweets or limit fatty foods	384	100	0	0	3.65±0.488
Do you take herbal drug	12	3.1	372	96.9	
Do you check your sugar levels regularly	383	99.7	1	0.3	
Do you eat only that which is available or what you can afford irrespective of content	240	62.5	144	37.5	
Does diabetes interference with or prevent you from doing your normal daily activities	383	99.7	1	0.3	

Total 242 (63%) participants used to follow dietary modification and regular medication to control diabetes where as 108 (28.1%) preferred taking only regular medication and less than 10% followed all methods including exercise (Table 3). Considering the risk factors for diabetes mellitus, 36.2% participants know that family history is a risk factors for diabetes mellitus where as less than 3% knew both the cause. While 60.7 % do not know about the risk factors. On detection of diabetes, 231 (60.2%) participants knew that the diabetes can be detected by blood test, where as 134 (34.9%) know it can be detected by blood test and urine test. while less than

3% of them were familiar with other symptoms of detecting diabetes. Knowing the symptoms of diabetes, 91 (23.7%) participants knew that the symptoms of diabetes are Numbness in feets, whereas 29 (7.6%) know it as Polyuria and 41 (10.7%) of them knew it Can be asymptomatic and 180 (46.9%) of them do not know about the symptoms. while very less (7%) of them know about other symptoms. Total 79.4% participants believed that diabetes can be controlled (Table 4). While 72.4% knew that diet and exercise are as important as treatment in control of diabetes and 14.6 % of them knew that being drunk while on diabetic drugs is a serious problem. Mean attitude score of study participants were 1.66±0.927.

All the participants were aware that they are empowered to control/avoid sweets or limit fatty foods (Table 5). only 3.1% used to consume herbal drugs for diabetes. 99.7% of them check their blood sugar levels regularly. and 62.5% eat only that which is available or what you can afford irrespective of content and 99.7% answered that diabetes interference with or prevent them from doing their normal daily activities. Mean practice score of study participants were 3.65±0.488. Among 384 study participants, 192 (50%) had good knowledge and 192 (50%) had poor knowledge towards diabetes as shown in (Figure 1). 269 (70.1%) were having good attitude towards diabetes and 115 (29.9%) had poor attitude. 248 (64.6%) had good practices and 136 (35.4%) had poor practices towards diabetes.

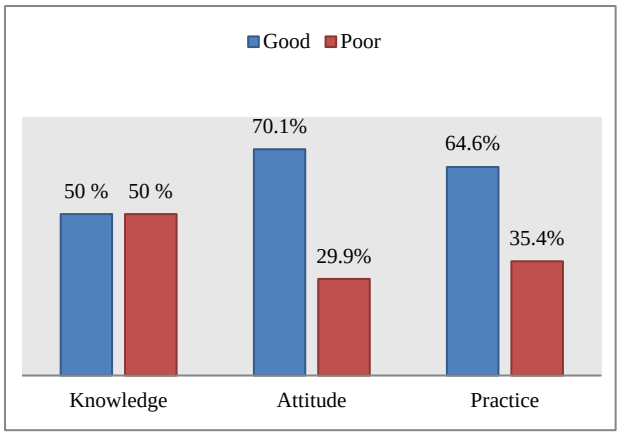

Figure 1: KAP on good and poor.

DISCUSSION

Diabetes management is complicated, and it demands health-risk-reduction methods in addition to blood sugar control.[12,13] Individuals will modify their diabetic behaviour and attitude only if they believe themselves to be at high risk and are likely to develop complication in the near future. Diabetes mellitus management is necessitates not only by prescribed adequate diet and pharmaceutical regimen, but also extensive self-care education and counselling.[14]

The present study about diabetic knowledge shows,197 (51.3%) knew that diabetes mellitus was hereditary,139 (36.2%) and 1 (0.3%) subject knew family history and obesity are the risk factors for diabetes mellitus. A study by Dinesh et al reported that 261 (65.25%) of the subjects had good knowledge in contrast to current findings, 283 (70.75%) and 254 (63.5%) participants knew family history, obesity respectively as the risk factors.[15]

While considering the symptoms of diabetes, 9 (2.3%) participants knew it is caused by excessive thirst and 29 (7.6%) of them knew it is by polyuria. About 60.2% participants know that diabetes can be detected by blood test by considering the same study carried out by Dinesh et al reports that 200 (50%) knew the symptoms of diabetes, the increased thirst and 225 (56.25%) as increased urination.329 (82.25%) participants know about blood test in contrast to current finding.[15] Among the study participants, mean knowledge score was 3.15±1.84 out of 7, attitude score was 1.66±0.927 out of 3 and mean practice score was 3.65±0.488 out of 5. A study by Rajiv et al reported, mean knowledge score was 10.13±2.09 out of 14, attitude score was 3.13±1.26 out of 6 and the mean practice score was 2.86±1.39 out of 5.[16] Respondents attitude and practice towards seeking treatment was not up to the mark. The most common reasons were lack of money, long waiting hours and queues apart from distance of health facility from the residence. Cost burden was the prime barrier among the patients. Reinforcing the information on nutrition, by allowing them to listen to or participate in a discussion about diabetes nutrition diet may encourage them to adopt good practices.

CONCLUSION

According to the results of the present study, the attitude of the study participants towards diabetes was good, the levels of knowledge are low. This means that a large majority of individuals are at risk of experiencing consequences. It may be fair to suggest that knowledge of community eating practices should be available in order to develop nutrition education programmes that are adapted to the needs of each individual. We think that scientific developments should be done to provide additional knowledge for patient care by practitioners on attending conferences and workshops and also involving NGOs in dispelling myths, educating the public, and implementing diabetes prevention strategies.

Limitations

Limitations of current study were the method adopted was cross sectional study, by doing nutritional intervention a longitudinal or cohort studies will be advantageous to understand magnitude and trend of nutritional status.

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