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KNOWLEDGE, ATTITUDE AND PRACTICE OF DIET AND EXERCISE AMONG DIABETIC PATIENTS RESIDING AT AN URBAN HEALTH CENTRE OF BELAGAVI

Diabetology

Rajesh Kulkarni* Associate Professor, Department of Community Medicine, Jawaharlal Nehru Medical College, KLE University of Higher Education and Research (KAHER) Nehru Nagar, Belagavi – 590 010, Karnataka, INDIA * Corresponding Author

Padmaja Walvekar Professor, Department of Community Medicine, KAHER's J. N. Medical College, Belagavi, Karnataka, India

K. Sindhu Intern, KAHER's J. N. Medical College, Belagavi, Karnataka, India

Jayachandra Muppa Intern, KAHER's J. N. Medical College, Belagavi, Karnataka, India

Balakrishna Kolanati Intern, KAHER's J. N. Medical College, Belagavi, Karnataka, India

Kamat Shankhwalker Maithili G Intern, KAHER's J. N. Medical College, Belagavi, Karnataka, India

ABSTRACT

Background: World Health Organization estimates that more than 346 million people worldwide have DM. This number is likely to more than double by 2030 without any intervention. In diabetic patients lack of awareness and inadequate practices are the key variables which influence the Complications of diabetes. These are largely preventable by means of health education and behavioural change communication involving diabetic patients.

Methods: It was a community based cross sectional Study conducted among type 2 diabetics attending Out Patient Department in Urban Health Centre Ashok nagar. Knowledge and self care practices were evaluated using a semi structured questionnaire. Statistical methods used included frequencies, proportions and chi square test. Correlation between different variables was assessed by Karl Pearson's Coefficient Method.

Results: The result showed that there were more men than women, 77(51.3%) and 173(48.7%) respectively. One third, 50(33.3%) of the respondents were in the age group of 50-59 years and around 48(32%) had primary education. While assessing the knowledge of the study participants more than two third, 112 (74.67%) knew that diabetes is a hereditary disease. Majority of the study participants, 128 (85.33%) knew exercise can control blood sugar, and 142(94.67%) knew dietary modification can control diabetes. Most, 133 (88.67%) of them like sweets, and one third, 57 (38%) of them like to exercise. majority of the study participants, 121 (80.67%) use to do of them exercise, most of them, 101 (67.33%) have diet plans but only 82(54.67%) of them follow the diet plan strictly every day. There was significant correlation between Knowledge and Attitude and Knowledge and Practice.

Conclusion: This study found that there is lack of knowledge and awareness regarding complications of diabetes which can addressed by clinicians by promoting self care behaviours among diabetic patients.

KEYWORDS

Diabetes Mellitus, Self Care, Diet And Exercise

INTRODUCTION

Chronic non-communicable diseases are now the leading causes of morbidity as well as mortality worldwide. [1, 2] Diseases such as cardiovascular disease, cancer, and type-2 diabetes (T2D) have been associated with rapid urbanization, poor eating habit, physical inactivity and obesity.[3] Diabetes, a global escalating public health problem, primarily because of the increasing prevalence, is estimated to affect 285 million individuals worldwide.[4] Global estimates for the year 2030 predict a further growth of almost 50%. In 2000, it is estimated that 2.8% of world's population had diabetes mellitus and that by 2030 this number will be 4.4% of the world's population. According to WHO the 'top' three countries in terms of the number of type 2 diabetes mellitus (T2DM) individuals with diabetes are India (31.7 million in 2000; 79.4 million in 2030), China (20.8 million in 2000; 42.3 million in 2030) and the US (17.7 million in 2000; 30.3 million in 2030).[5] It is well known that risk factor for diabetes such as physical activity and diet are modifiable and can possibly be reversed with adjustments in lifestyle; there is an opportunity to intervene, prevent or delay onset of diabetes.[6] Convincing evidence shows that when patients carry out their self-care with repeated reinforcement of health education, they can improve blood sugar control. It has also been clearly demonstrated that improving metabolic control of diabetes reduces complications and hospitalizations.[7, 8] Knowledge plays a vital role in disease development and its early prevention and detection. Positive Knowledge, Attitude and Practice (KAP) are important for DM patients. Elements of KAP are interrelated and dependent on each other. If the level of one element is higher, the other two factors should be affected positively. KAP regarding Diabetes vary greatly depending on socio economic conditions, cultural beliefs and habits.[9]

Many studies done in developing countries mainly focussed on diabetic patients and are clinic based. It is the need of hour that we should focus on creating awareness regarding prevention, reduction of risk factors and management of diabetes. Hence this study was done in a community setting with an objective to know the Knowledge, Attitude and Practice of diet and Exercise among diabetic patients residing in an urban field practice area of Belagavi.

Materials and Methods

It was a community based cross sectional Study conducted during October-November 2019. Known type II Diabetic patients in the age groups of forty years and above attending general Out Patient Department in Urban Health Centre Ashok Nagar which is an urban field practice area under Department of Community Medicine of J. N. Medical College, Belagavi, North Karnataka, India, were included in the study. Sample size was calculated by Roa-soft software online, with 0.05 level of significance and 10% non response rate the calculated sample size was 150. A pre-designed pretested questionnaire was used to obtain information on Socio-demographic and Socio Economic Status of study subjects and assessing their Knowledge, Attitude and Practice regarding Diabetes Mellitus. Modified BG Prasad classification was used to assess socio-economic class.

In the view the ethical consideration of this study, a informed consent was presented and explained to patient to get his/her agreement as a

study participant. For the data analysis in descriptive statistic, percentages and frequencies were calculated for nominal and ordinal data, while Mean and Standard Deviation were calculated for scale data. Correlation between different variables was assessed by Karl Pearson's Coefficient Method.

RESULTS

Table 1 showed the socio-demographic characteristics of the study participants. The result showed that there were more men than women, 77(51.3%) and 173(48.7%) respectively. One third , 50(33.3%) of the respondents were in the age group of 50-59 years and around 48(32%) had primary education. Less than a quarter, 20(13.3%) had no formal education whilst less than half, 68(45.3%) were in the class II socioeconomic status according to modified Modified B.G. Prasad class.

In the table no 2, assessing the knowledge of the study participants more than two third, 112 (74.67%) knew that diabetes is hereditary disease. Majority of the study participants, 128 (85.33%) knew exercise can control blood sugar, and 142(94.67%) knew dietary modification can control diabetes. In this study more than two third, 119 (79.33%) knew exercise can prevent complications of diabetes, but half of them, 77(51.33%) knew that diabetes can effect eye sight and less than half, 66 (44%) had the knowledge about the foot care to be taken in diabetes.

In table no 3, attitude of the participants was as follows, majority, 133 (88.67%) of them like sweets, and one third, 57 (38%) of them like to exercise. Majority of study participants, 127 (84.67%) don't like the diet restrictions and more than two third, 113 (75.33%) advise other diabetics to exercise.

Table-4 showed, Practise of the participants was as follows, majority of the study participants, 121 (80.67%) use to do of them exercise, most of them , 101 (67.33%) have diet plans but only 82(54.67%) of them follow the diet plan strictly every day, most of them, 131 (87.33%) were on anti-diabetic medications and only few, 33 (22%), were on insulin injections of these both some were on both anti-diabetic drugs and insulin injections 19 (12%). It is noted that majority, 125 (83.33%) of study participants get their RBS checked regularly, but less than half of the study subjects , 71 (47.33%) get done their eye check-up regularly, 64 (42.67%) examine their foot regularly while taking bath.

In table no 5, there was significant correlation between Knowledge and Attitude (r= 0.311 , p= 0.000) and Knowledge and Practice (r= 0.360, p=0.00) at 0.01 alpha level. There was no significant correlation between Attitude and Practice (r = 0.157, p= 0.056).

DISCUSSION

In our study while assessing the knowledge of the study participants more than two third, 112 (74.67%) knew that diabetes is hereditary disease. A similar study conducted by Shooka Mohammadi *et.al* reported that 30 subjects reported that the cause of diabetes as high sugar intake, 16 subjects (14%) stated that it is due to failure in insulin secretion and 56 percent did not know the causes of diabetes.[10] In this study majority of the study participants, 128 (85.33%) knew exercise can control blood sugar, and 142(94.67%) knew dietary modification can control diabetes. In this study more than two third, 119 (79.33%) knew exercise can prevent complications of diabetes. A study by Mafomekong Ayuk Foma *et.al* on Awareness of Diabetes Mellitus among Diabetic Patients in the Gambia shown that strong case for health and promotion reported that a significant proportion (67%) of subjects said DM can be managed by dietary modification and medication while 28.5 percent felt that the condition can be managed by a combination of dietary modification, exercise and medication. Only few (0.5%) said that dietary modification or medications (2.0%) alone are the mainstream of diabetic management.[11] In table no 3, attitude of the participants was as follows, majority, 133 (88.67%) of them like sweets, and one third, 57 (38%) of them like to exercise. Majority of study participants, 127 (84.67%) don't like the diet restrictions and more than two third, 113 (75.33%) advise other diabetics to exercise. Gupta .R too reported from a KAP study that only 47.82 percent of the subjects monitored blood pressure and blood sugar levels on monthly basis.[12,13] A study conducted by Odenigbo Marian A *et.al* showed that approximately 52.5 percent of subjects do not consume vegetables on daily bases (less than 2 times a week). [14] In this study practise of the participants was as follows, majority of the study participants, 121 (80.67%) use to do of them exercise, most of them , 101 (67.33%) have diet plans but only 82(54.67%) of them follow the diet plan strictly every day, most of them, 131 (87.33%) were on anti-diabetic medications and only few, 33 (22%), were on insulin injections of these both some were on both anti-diabetic drugs and insulin injections 19 (12%). It is noted that majority, 125 (83.33%) of study participants get their RBS checked regularly. In a study conducted by Arvind S. et al showed that three fourth (76.8%) of the subjects took their recommended medication every day in the previous week. Adherence to oral hypoglycaemic agents (86.9%) was more than that of insulin (33.3%). [15] In a study conducted by Gopichandran V et al found that good dietary behaviour was present in 29%, good exercise behaviour in 19.5%, regular blood sugar monitoring in 70% and drug adherence in 79.8% of the subjects. [16] Our study showed that there was a significant correlation between Knowledge and Attitude (r= 0.319, p= 0.000) and Knowledge and Practice (r= 0.384, p=0.00) at 0.01 alpha level. There was a significant correlation between Attitude and Practice (r = 0.176, p= 0.031) at 0.05 alpha level. Our results are in agreement with Ng SH *et al* who also reported a strong association between knowledge and attitude as well as knowledge and practices ($p<0.05$).[17]

CONCLUSION

This study found that there is lack of knowledge and awareness regarding complications of diabetes like foot care and regular eye health check up among study participants which can be addressed by clinicians by promoting self care behaviours. In urban areas the role of public health programmes which includes educational intervention and behavioural change communication is the present need.

Table No 1. Socio-demographic Profile Of Study Participants

Parameters		No.	Percentage
Age (Years)	40-49yrs	29	19.3
	50-59yrs	50	33.3
	60-69yrs	43	28.7
	70 above	28	18.7
Sex	Male	77	51.3
	Female	73	48.7
Religion	Hindu	95	63.3
	Muslim	54	36.0
	Others	1	.7
Education	No formal schooling	20	13.3
	Primary	48	32.0
	Secondary	43	28.7
	PUC	29	19.3
	UG	8	5.3
	PG	2	1.4
Socio economic status (Modified B.G. Prasad)	class I	14	9.3
	class II	68	45.3
	class III	43	28.7
	class IV	23	15.3
	class V	2	1.3
	Total	150	100.0

Table No 2. Distribution Table Of Participants Based On Knowledge Diabetes Mellitus

Sl. no	Questions regarding knowledge	Yes	No	Don't know
1)	Do you think Diabetes is Hereditary	112(74.67%)	22(14.67%)	15(10%)
2)	Exercise can control blood sugar level	128(85.33%)	10(6.67%)	12(8%)
3)	Can Diabetes affect your vision	77(51.33%)	39(26%)	33(22%)
4)	Dietary modification is helpful in controlling Diabetes	142(94.67%)	5(3.33%)	3(2%)
5)	Sedentary lifestyle can cause diabetes	106(70.67%)	14(9.33%)	30(20%)
6)	Increased frequency of micturition is symptom diabetes	83(55.33%)	26(17.33%)	41(27.33%)
7)	Sugar intake should be nil in Diabetes	127(84.67%)	15(10%)	8(5.33%)
8)	Exercise can prevent complications of Diabetes	119(79.33%)	10(6.67%)	21(14%)

9)	Do you know about artificial sweetener	70(46.67%)	37(24.67%)	43(28.67%)
10)	Sleep deprival is risk factor for Diabetes	31(20.67%)	37(24.67%)	82(54.67%)
11)	Diabetes can cause hypertension	94(62.67%)	27(18%)	29(19.33%)
12)	Protein diet is good for Diabetes	64(42.67%)	29(19.33%)	57(38%)
13)	Low carbohydrate and low fat diet is good for diabetic patients	81(54%)	26(17.33%)	43(28.67%)
14)	Do you have knowledge about foot care in diabetes	66(44%)	48(32%)	36(24%)

Table No 3. Distribution Table Of Participants Based On Their Attitude Regarding Diabetes Mellitus

Sl. no	Questions regarding attitude	Yes	No
1)	Do you like eating sweets	133(88.67%)	17(11.33%)
2)	Do you enjoy doing exercise	57(38%)	93(62%)
3)	Do you like diet restrictions	23(15.33%)	127(84.67%)
4)	Do you feel odd not eating all types of food like your friends	96(64%)	54(36%)
5)	Adaptation to diet plan is easy for you	46(30.67%)	104(69.33%)
6)	Are you getting bored of sugar free diet	90(60%)	60(40%)
7)	Would you like to advise exercise to other diabetic patients	113(75.33%)	37(24.67%)

Table No 4. Distribution Table Of Participants Based On Their Practice Regarding Diabetes Mellitus

Sl. No	Questions regarding practice	Never	Sometimes	Usually
1)	How often do you exercise	29(19.33%)	75 (50%)	46 (30.67%)
		Yes	No	
2)	Do you follow any meal plans	101(67.33%)	49(32.67%)	
3)	Do you take insulin injections	33(22%)	117(78%)	
4)	Do you take anti-diabetic medications	131(87.33%)	19(12.67%)	
5)	Do you take any treatment for diabetes other than allopathy	28(18.67%)	122(81.33%)	
6)	Did you gain weight after being diagnosed of diabetes	46(30.67%)	104(69.33%)	
7)	Do you follow your meal plan strictly	82(54.67%)	68(45.33%)	
8)	Do you have a habit of consuming sweets after every meal	38(25.33%)	112(74.67%)	
9)	Do you monitor your RBS at regular intervals	125(83.33%)	25(16.67%)	
10)	Do you eye check-up regularly	71(47.33%)	78(52%)	
11)	Do you examine your foot regularly while bathing	64(42.67%)	29(19.33%)	

Table No. 5: Correlation Between Knowledge, Attitude And Practice By Karl Pearson's Coefficient Method

	r - value	p- value
Knowledge vs Attitude	0.311**	0.000
Knowledge vs Practice	0.360**	0.00
Attitude vs Practice	0.157	0.056

** correlation is significant at the 0.01 level (2 tailed)
* correlation is significant at the 0.05 level (2 tailed)

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