European Journal of Molecular & Clinical Medicine

ISSN 2515-8260 Volume 09, Issue 02, 2022

Knowledge, attitude and practices in type 2 diabetes mellitus patients in Latur city of Maharashtra

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Abstract

Introduction: The increase in severity of diabetes every year has been linked to patient's lack of knowledge and practice of proper self-care. Due to its extreme importance, an annual assessment of patients' skills and knowledge has been recommended by The American Diabetes Association.
Objectives:
1. To assess the knowledge, attitude and practice of diabetic patients and to study the impact on glycemic control.
2. To educate the patients about the importance of lifestyle modification in the management of diabetes.

Methods: This study was conducted at the tertiary care level center in latur city of maharashtra. All the patients suffering from type 2 DM for more than one year attending the OPD and at IPD were included in the study irrespective of their age.
Results: On analyzing the data, it is found that only 7.14% participants had knowledge about the insulin deficiency as the cause of DM. only 37.30% of people knew that it is hereditary disease. Participants knowing that DM causes delayed wound healing were 58.73%. Only 50% participants follow the diet plan. Participants examining their feet daily were just 7.14% and only one patient was carrying the diabetic ID card.
Conclusion: The results of the study state that type 2 diabetes patients are deficient of sufficient knowledge on the understanding of causes of DM, risk factors of DM, progress of the disease, complications of DM, different signs and symptoms of complications for early identification, and basic rules of foot care. Practices of eating green leafy vegetables, exercise daily and checking blood sugar regularly are followed well but simple practice of feet examination daily is not followed.

Keywords: Type 2 diabetes, blood sugar, knowledge, attitude, practices

Introduction

Globally, the number of people with type 2 diabetes is rising rapidly. This rise is associated with population growth, economic development, ageing populations, increasing urbanization, dietary changes, obesity, reduced physical activity and changes in other lifestyle patterns [1, 2].

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The International Diabetes Federation indicated a global estimate of more than 415 million people living with diabetes in 2015, with a prevalence of 8.8%. [3] Half of these people are not even aware that they have it. Diabetes is one of the major causes of morbidity and mortality; it has a significant impact on the patients' quality of life, productivity and involves enormous health costs for virtually every society [4]. One in twenty adult deaths in developing countries is diabetes-related [5]. Complications due to diabetes are implicated in disability, increased cost of care, reduced quality of life and death [6].

For effective management of diabetes, patients must be actively involved in their care: this requires performance of many complex self-care behaviors including lifestyle modifications (such as dietary control, regular exercise and psychosocial coping skills) and medical self-care (medication use and self-monitoring of blood glucose (SMBG)). The increase in severity of diabetes every year has been linked to patient's lack of knowledge and practice of proper self-care [7]. Due to its extreme importance, an annual assessment of patients' skills and knowledge has been recommended by The American Diabetes Association. Knowledge attitude and practices study have generated enough evidence regarding the need to create more awareness in general and diabetic in particular regarding the control, prevention, risk factors and disease management. Hence the study was undertaken to delay the onset of micro and macro vascular complications.

Objectives

1. To assess the knowledge, attitude and practice of diabetic patients and to study the impact on glycemic control.
2. To educate the patients about the importance of lifestyle modification in the management of diabetes.

Materials and Methods

The study was conducted at the tertiary care level center in Latur city of maharashtra. All the patients suffering from type 2 DM for more than one year attending the OPD and at IPD were included in the study irrespective of their age. This study was conducted during the period 1st May to 31st May 2019. For collecting the information a questionnaire was prepared consisting the questions to assess knowledge, attitude and practices related to diabetes mellitus. All the patients were asked to answer a set of questions from the questionnaire. The questionnaire was translated to the local language of this region.

Inclusion criteria: All the patients attending O.P.D. or I.P.D. with known Diabetes for more than 1 year.

Exclusion criteria

1. All the patients with type 1 DM.
2. All the patients with GDM.
3. All the patients with serious complications.
4. Patients of type 2 recently diagnosed (less than 1 yr).
5. Unwilling to participate.

Sample size= $\underline{Z_{1-a/2}^2\, p\,(1-p)}/d^2$

So, $Z_{1-a/2}{}^2$ = Standard normal variant (at 5% type1 error ($p < 0.05$) it is 1.96).

P = Expected proportion in population based on previous studies (8.8%).

d = Absolute error or precision (at absolute error of 5% and at type 1 error of 5%.

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$Ss = 1.96^2 \times 0.08\ (1\text{-}0.08)/(0.05)^{2.} = \underline{0.314}/0.\ 00.$
So the sample size is calculated as 126.

Data analysis: Data was analyzed by using SPSS version 19.0. All statistical tests will be performed using 0.05 as level of significance.

Results

Table 1: Socio-Demographic Profile of the Participants

Variable		Frequency	Percentage
Sex	Male	61	48.41
	Female	65	51.59
Age	30-40 yrs.	22	17.46
	40-50 yrs.	25	19.84
	50-60 yrs.	39	30.95
	60 and above	40	31.75
Work	Working at home	73	57.94
	Working outside	53	42.06
Education	Illiterate	44	34.92
	Primary	10	07.94
	Secondary	34	26.98
	Higher Secondary & above	38	30.16
Duration of DM	1-5 yrs.	76	60.32
	6-10 yrs.	34	26.98
	11 + yrs.	16	12.70

As Table 1 shows that in this study total 126 participants were involved and all the participants were from rural area. Out of the total participants 61 were males and 65 were females that is ratio of males and females in the study group nearly equal. Whole study population was divided into four age groups lowest number of participants were in the age group of 30-40 yrs that is 22% and highest number of participants were from 60 above age group that is 31.75% immediately followed by 50-60 yrs age group and they were 31.75%. Occupationally study population was divided into two groups 1st was those who are staying at or working at home like house wives and other group was those who are working outside home. Most of the study population was found to be staying at home only and they were 57.94%. Out of the study population depending upon educational status highest that is 34%92 participants were illiterates followed by the group of participants' educated higher secondary and above that is 30.16%. Most of the participants were having duration of DM between 1-5 yrs that is 60.32 and lowest no. of participants was with duration of disease more than 11 years that is 12.70%.

Table 2: Knowledge of the participants about the disease

Questions related to knowledge	Yes	Percentage	No	Percentage	Don't know	Percentage
Sugar causes DM	14	11.11	75	59.52	37	29.36
Insulin as the cause	09	7.14	03	2.38	114	90.48
NO treatment rises BSL	102	80.95	03	2.38	21	16.67
Hereditary disease	47	37.30	33	26.19	46	36.51
Medication more imp	104	82.54	13	10.32	09	7.14
Wounds Heal slowly	74	58.73	04	3.17	48	38.1
Can damage kidneys	54	42.86	02	1.59	70	55.56
Signs of Peripheral neuropathy	65	51.59	02	1.59	59	46.83
Hypoglycemia signs	32	25.4	29	23.02	65	51.59
Hyperglycemia signs	67	53.17	07	5.56	52	41.27

As Table 2 shown that on analyzing the knowledge it was found that very few that is just 7.14% participants knew that diabetes is caused by lack of insulin. Only 37.30% participants knew that it is hereditary disease. Most of the participants knew that diabetes causes delayed wound healing that is 58.73%. Out of the study population 42.86% of participants knew about the adverse effect on the kidney and 51.59% participants knew the signs of peripheral neuropathy are due to raised blood sugar levels. Knowledge regarding the signs of hypoglycemia was found poor that is 25.4% but knowledge regarding signs of hyperglycemia was good that is 53.17%.

Table 3: Attitude of the participants towards the disease

Questions related to attitude	Always	Percentage	Sometimes	Percentage	Never	Percentage
Diabetes care responsibility of patient	109	86.51	17	13.49	00	0.00
Follow diet plan	63	50.00	59	46.83	04	3.17
Follow treatment plan	100	79.37	26	20.63	00	0.00
Stop treatment on normal lab	11	08.73	15	11.90	100	79.37

As Table 3 shows that attitude of the participants towards the disease 86.51% participants were agreed that diabetes care is responsibility of a patient that the physician. Half of the population followed the diet plan. Most of the participants followed the treatment plan that is 79.37%.

Table 4: Practice of the participants with the disease

Questions related to Practices	Yes	Percentage	No	Percentage
Green vegetables in diet	113	89.62	13	10.32
Exercise daily	83	65.87	43	34.12
Check blood glucose regularly	82	65.08	44	34.92
Feet examination	09	07.14	117	92.86
Diabetic ID card	01	00.79	125	99.21

It was seen from Table 4 that the practices followed by the study population most of them were eating green vegetables in the diet that is 89.62%. Participants doing exercise daily were 65.87%. Participants checking blood sugar levels regularly were 65.08%. Very few participants were examining their feet daily that is 7.14% and out of all study population only one participant was carrying the diabetic ID card.

Discussion

In this study, proportion of the male and female was nearly equal. According to age most of the participants were above the age of 50 yrs as the disease is more in the older age groups. The participants working outside home were less compared participants working or staying at home this may due the higher no. of participants above the age of 60 yr and above. In this study illiterate participants were highest as compared to the other groups as study population is rural population. Most of the participants were having the duration of disease between 1-5 yrs. Probably as the study population is rural population participants with older age groups are high and most of them are having duration of disease less.

Knowledge regarding the lack of insulin as the cause of DM was found in only 7.14% that is 90.48% participants did not know the cause of diabetes. And remaining 2.38% participants said insulin is not the cause stress is the main cause of DM. About 36.51% participants did not know that diabetes is hereditary disease and 26.91% participants were sure that the disease is not hereditary. Similar results were also observed in various studies [4-7]. High percentage of illiteracy among the study population May important factor for this lack of knowledge. Knowledge regarding the signs of hypoglycemia was found poor that is 25.4%.

ISSN 2515-8260 Volume 09, Issue 02, 2022

Those who knew they shared they have experienced these signs of hypoglycemia that's how they knew that. Other patients replied we don't know as we have not experienced such signs and symptoms. Diet plan is followed by only 50% of the study population the reason may be that as they belong to rural area it is difficult to stick to the dietary advises. Daily feet examination is followed by a few participants that is 7.14% important reason may be feet examination importance is not told by the physician. And 99.21% of participants were not carrying diabetic ID card. The reason for this is that it not followed as a routine practice to provide the diabetic ID card in this rural area hospital.

Conclusions

The results of the study state that type 2 diabetes patients are deficient of sufficient knowledge on the understanding of causes of DM, risk factors of DM, progress of the disease, complications of DM, different signs and symptoms of complications for early identification, and basic rules of foot care. Majority of the participants agree that it is responsibility of the patient to take care of diabetes but only 50% of the patients follow diet plan. Practices of eating green leafy vegetables, exercise daily and checking blood sugar regularly are followed well but simple practice of feet examination daily is not followed. And carrying diabetic ID card not even thought by many as only one participant found to be carrying diabetic ID card. If clinician tells the patient importance of it then it will be better followed. More such studies should be conducted in the rural areas for status of their knowledge attitude and practices towards the disease.

Recommendations

Emphasis should be given on improving the literacy rate of the population. Diabetes education must be imparted by every clinician as per standard norms. Medical officers at primary health center should be enriched with more knowledge by CME and other programs. Media and non-government organizations should be involved in the daunting task of removing misbelieves, ignorance and instituting diabetes preventive measures in the community. In a study, it is recommended that repeated support of health education and strong motivation are essential to bring about positive changes in self-care practices in diabetes control.

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