Original Research Paper

Volume - 14 | Issue - 01 | January - 2024 | PRINT ISSN No. 2249 - 555X | DOI : 10.36106/ijar

General Medicine

CLINICAL PROFILE OF PATIENTS WITH UNCONTROLLED DIABETES: A PROSPECTIVE STUDY IN RURAL TERTIARY CARE HOSPITAL

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ABSTRACT **Background:** Type 2 diabetes mellitus (T2DM) is becoming more common due to lifestyle changes. Diabetes is expected to be a major problem in India. The disease is becoming widespread in rural areas of India as well. **Aim:** To assess clinical profile of T2DM in a rural tertiary care hospital. **Methods:** Hundred T2DM patients receiving metformin were included in this study at departments of Medicine, Dr RPGMC and Hospital, Tanda. **Results:** Mean age of the patients was 56.3 years. 32% were aged between 51-60 years. 56% were males, 58% were illiterate, 28% were smokers, 38% had family history, 60% were taking mixed diet, and 22% had duration of diabetes more than 10 years. 36% of the patients also had hypertension. 66% were regular on treatment. In this study, only 30% had FBS levels below 160 mg/dl while 86% had HbA1c between 7% and 8%. **Conclusion:** The T2DM patients shared concomitant conditions like hypertension. Due to the irregularity of the medication, most of these patients were unable to regulate their HbA1c and blood sugar levels.

KEYWORDS : T2DM, Metformin, FBS, HbA1c

INTRODUCTION

The term diabetes mellitus (DM) refers to a group of metabolic disorders that are characterized by hyperglycemia and abnormalities in the metabolism of proteins, lipids, and carbohydrates as a result of insufficient insulin action, secretion, or both. Multiple distinct kinds of diabetes are developed as a result of complex interactions between hereditary and environmental factors. Depending on the cause of the diabetes, reduced insulin secretion, decreased glucose absorption, and increased glucose production can all result in hyperglycemia.[1]

It is anticipated that the prevalence of DM would increase from 2.8% in 2000 to 4.4% by 2030, making it a recognized global epidemic.

A multitude of factors, including population growth, aging, urbanization, rising obesity rates, and inactivity, all contribute to the rise in the number of people with diabetes. It is essential to estimate the prevalence of diabetes and the number of people afflicted by it, both now and in the future, in order to facilitate rational planning and resource allocation.

Diabetes prevalence projections have already been provided for the near and distant future.[2-4] Additional epidemiological data has been made available for a number of countries in Africa, the Middle East, and India since the release of these publications.[5]

Globally, 415 million people were estimated to have diabetes in 2015; by 2040, that figure is projected to increase to 642 million. Globally, the number of people with diabetes is expected to increase from 215 million in 2015 to 328.4 million men and 313.3 million women by 2040. In 2015, there were 145.1 million diabetics in rural areas and 269.7 million in urban areas; by 2040, these figures will increase to 163.9 million and 477.9 million, respectively. The percentage of adults with diabetes will rise from one in eleven in 2015 to one in ten by 2040. The Indian Council of Medical Research's ICMR-INDIAB survey from 2011 estimates that there were 62.4 million diabetics in India. These numbers are expected to rise to 101.2 million by 2030.[6] Type 2 diabetes (T2DM) is more common in urban environments (11% vs 3-9% in rural areas). In India, diabetes and its aftereffects are more prevalent than ever, especially among the lower classes, middle class, and even those residing in slums in both rural and urban areas. This is the outcome of changes in nutrition and way of life brought about by globalization and urbanization.

Regretfully, the majority of people in India (70%) live in rural areas. The burden of undiagnosed diabetes is significantly higher in rural areas due to the low incidence of diabetes screening. Most of these cases involve type 2 patients. The better the likelihood of avoiding dangerous and expensive problems, the earlier a person is detected, and treatment is started.

The present study was aimed to determine the clinical profile of uncontrolled T2DM patients.

METHODS

The present observational study was carried out in patients from rural areas in Departments of Medicine, Dr RPGMC and Hospital, Tanda over a period of one year. Uncontrolled T2DM patients were included in this study. The patients with controlled diabetes with HbA1c >7% irrespective of age and sex were included. The patients with acute complications of diabetes, liver disease, congestive heart failure, acute coronary syndrome, pregnancy, and lactating women, and/or unwilling to participate were excluded.

The Dr RPGMC and Hospital, Department of Medicine is where the data was kept. If the patients agreed to give their consent to take part in the trial, they were enrolled.

Data were presented as frequency, percentage, mean, and standard deviation (SD).

RESULTS

General characteristics

A total of 100 patients were included in this study. Table 1 shows general characteristics of the study subjects. The mean age of the patients was 56.3 years. 32% were aged between 51-60 years. 56% were males, 58% were illiterate, 28% were smokers, 38% had family history, 60% were taking mixed diet, and 22% had duration of diabetes more than 10 years.

Table 1: General Characteristics Of The Study Subjects

	Frequency	Percentage
Age-group (years)		
31-40	6	6%
41-50	30	30%
51-60	32	32%
61-70	18	18%
>70	14	14%
Gender		
Male	56	56%
Female	44	44%
Education status		
Illiterate	58	58%
Literate	42	42%
Addiction		
Smoking	28	28%
Alcohol	24	24%
Family history		
Present	38	38%
Absent	62	62%
Diet		
Vegetarian	12	3%
Non-vegetarian	28	28%

Mixed	60	60%
Duration of diabetes (years)		
<5	18	18%
5-10	60	60%
>10	22	22%

Prevalence Of Hypertension

In this study, 36% of the patients also had hypertension (Figure 1).

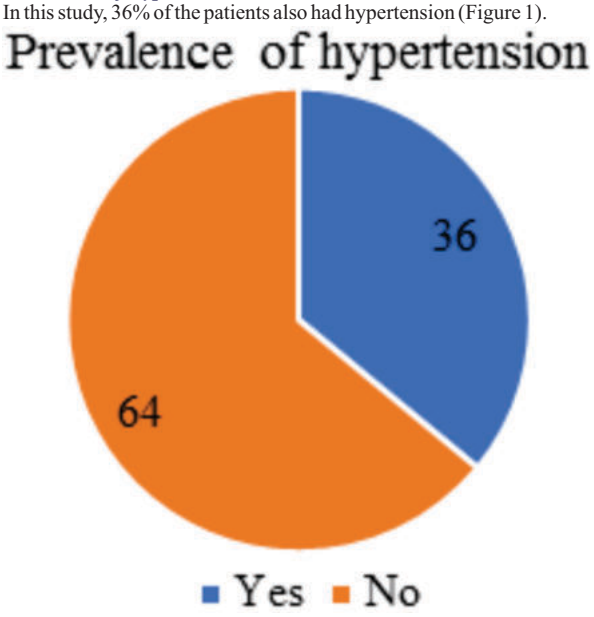

Figure 1: Prevalence of hypertension of the study subject

Regularity Of Treatment

In our study, 66% were regular on treatment (Figure 2).

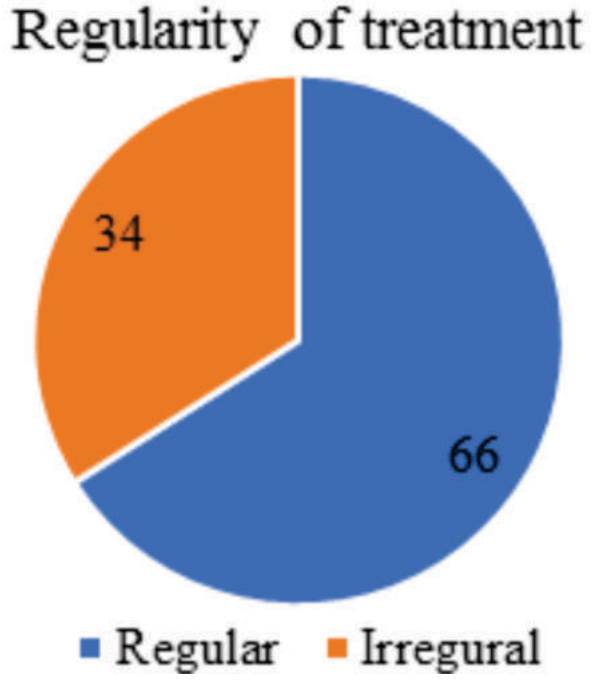

Figure 2: Regularity of treatment of the study subject

FBS and HbA1c levels

In this study, only 30% had FBS levels below 160 mg/dl while 86% had HbA1c between 7% and 8%.

DISCUSSION

In our study, 56% were males. Our findings are in concordance with Thakkar et al[7] who reported prevalence of DM was 58% in males and 42% in females. Santosh et al[8] reported prevalence in males of 58.23% and that in females of 41.76%.

In our study, 62% of patients were in the age group of 41 - 60 years with a mean age of 56.3 years. Shah et al[9] found that prevalence of DM was highest in the age group of 40 – 60 (56.12%) years followed by 60 - 80 (32.31%) years' age group. Srishat M[10] reported a mean age of 56 years. In our study, 28% were smokers. According to a previous study done by Bhalerao et al,[11] smoking was seen in 30.2% and alcohol consumption was found in 26.4% cases of T2DM.

In our study, 38% of patients have positive family history. Abdollahi et al[12] who observed 152 nT2DM and reported family history in 63 patients (41.4%).

In our study, 36% of patients were hypertensive. Harzallah et al[13] reported prevalence of hypertension to be 22% among T2DM.

CONCLUSION

Our study was an attempt to insight of the profile of the T2DM patients who were already of anti-diabetic therapy. We found that ever after on treatment, they were involved in smoking and alcohol consumption. They were also irregular treatment. These patients must stick to advice from physicians to avoid their diabetic complications in future.

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