



STUDY TO ASSESS DEMOGRAPHIC AND DISEASE PROFILE IN T2DM PATIENTS ATTENDING TERTIARY CARE TEACHING HOSPITAL NAVI-MUMBAI

Dr. Gayathri Chandrashekar

MBBS, Dr DY Patil Medical College, Navi Mumbai

Dr. Santwana Chandrakar

Professor, Department of General Medicine, Dr DY Patil Medical College, Navi Mumbai

Dr. Vaishali Thakare*

Professor, Department of Pharmacology, Dr DY Patil Medical College, Navi Mumbai *Corresponding Author

ABSTRACT

Introduction: Diabetes mellitus is a metabolic disorder characterized by elevated blood glucose levels, resulting from impaired glucose utilization due to either insufficient insulin production or reduced insulin sensitivity in target tissues. Type 2 diabetes mellitus (T2DM) has become a widespread global health concern, contributing to significant disability, premature morbidity, and substantial healthcare expenses. The number of individuals with T2DM is expected to double between 2000 and 2030, with Asia experiencing the most pronounced increase. **Aim & Objective:** This study aims to assess demographic and disease profile in T2DM patients attending tertiary care teaching hospital Navi-Mumbai. **Methodology:** This is a cross-sectional prospective study conducted at a tertiary care teaching hospital in Navi-Mumbai and includes patients from indoor and outdoor department presenting with T2DM, belonging to age group -> 18- 80 years, that includes both the genders and patients that give informed consent. **Results and Discussion:** In our study, majority of patients were from middle age and elderly (90%), from urban area (80%) and belonging to lower middle class. The gender distribution was almost equal amongst study participants. A high-carbohydrate diet was observed in 25 patients (46%), while 43 patients (80%) engaged in daily walking, and 32 patients (60%) had a family history of diabetes mellitus. Additionally, 70% of patients had diabetes for more than five years, with 97% exhibiting uncontrolled glycemic parameters. Insulin therapy was used by 53% of patients, while medication adherence was reported by 37%. Diabetes-related complications were present in 90% of patients, with 40% experiencing diabetic neuropathy (both peripheral and autonomic), 17% diagnosed with ischemic heart disease (IHD), 10% with retinopathy and chronic kidney disease (CKD), 7% with tuberculosis, and 3% each with recurrent urinary tract infections (UTI) and cerebrovascular events (stroke). Among the co-morbidities observed, 20% had hypertension, 28% had dyslipidemia, 26.6% were overweight or had grade 1 obesity, and 10% were underweight. **Conclusion:** This study provides insights into the demographic and disease profiles of type 2 diabetic patients, including factors such as diabetes duration, drug compliance, complications, co-morbidities, and adherence to anti-diabetic treatment. It also highlights the associations between socio-demographic factors, duration of diabetes, family history, dietary habits, insulin therapy, uncontrolled diabetes, and its complications.

KEYWORDS : T2DM, Demographic profile, Disease profile

INTRODUCTION

Diabetes mellitus is a metabolic disorder characterized by hyperglycemia, which is due to impaired glucose utilization resulting from either insulin deficiency or insensitiveness of target of Insulin.[1]

Diabetes with its ever-increasing global prevalence has emerged as one of the most important and challenging health issues confronting the human population of the present world.

Epidemiology of complications in DM- According to the 2016 Noncommunicable Disease Risk Factor Collaboration study, less than 1% of women and even fewer males have a chance of reaching goals for prevention of the rise in the incidence of diabetes by 2025. In 2021, the International Diabetes Federation (IDF) approximated that there were 537 million individuals living with diabetes, making up 10.5% of the global population.[2] As of 2024, the global prevalence of diabetes has reached alarming levels, with over 800 million adults affected-a figure that has more than quadrupled since 1990.[3] This surge is predominantly driven by type 2 diabetes, which constitutes approximately 90% of all cases. The growth is especially pronounced in low- and middle-income countries, where access to treatment remains limited. In 2022, nearly 450 million adults aged 30 and older were untreated, representing about 59% of all adults with diabetes. This untreated population has increased 3.5-fold since 1990, with 90% residing in low-income countries. The escalating prevalence is largely attributed to factors such as unhealthy diets with inclusion of high carbohydrates, sedentary lifestyle

and obesity. [4],[5] Diabetes has become a significant contributor to morbidity and mortality worldwide, resulting in complications like cardiovascular diseases, nephropathy, hypertension and neuropathy.[1] The total population diagnosed with diabetes is forecast to rise to 643 million by 2030 and 783 million by 2045.[6] Addressing this global health crisis necessitates urgent, comprehensive strategies focusing on prevention, early diagnosis and equitable access to effective treatments. The purpose of this study is to assess the demographic and disease profile amongst the patients suffering from type 2 diabetes mellitus attending tertiary care teaching hospital of Navi Mumbai.

Aim and Objectives of Study

To study demographic profile, disease profile pertaining to comorbidity, complications, treatment adherence and personal factors amongst the patients suffering from type 2 diabetes mellitus.

Methodology

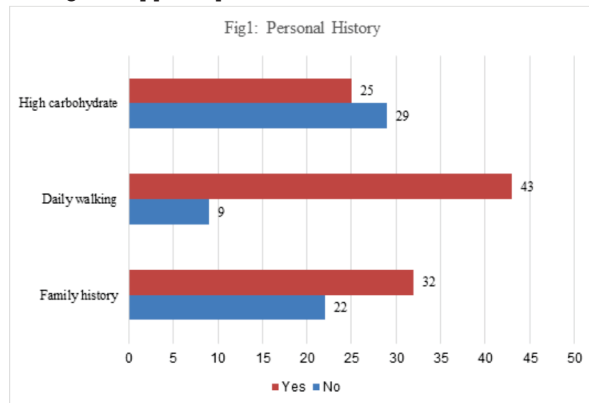
This is a cross-sectional observational study conducted at a tertiary care teaching hospital in Navi-Mumbai and included patients from indoor department presenting with T2DM, belonging to age group -> 18- 80 years, that includes both the genders and Patients that give informed consent in a month of Feb 2025 (1 week). Those not eligible patients were excluded from the study. The data pertaining to demographic and disease profile was collected from the enrolled patients and entered Microsoft Excel 325. The descriptive statistics were used to analyze the data by using SPSS -. The study was

initiated after taking approval from the Institutional ethics committee of Dr D Y Patil medical college and hospital, Navi-Mumbai.

RESULTS AND DISCUSSION

Categories	Number (%)			Total-54(100%)
Age groups (years)	20-39	40-59	>60	
	5(10)	25(46.6)	24 (43.3)	
Gender	Male	Female		
	30(56.6)	24(43.3)		
Rural/Urban	Urban	Rural		
	43(80)	11(20)		
Socioeconomic status	Lower Middle	Upper middle		
	46 (86)	8 (14)		
Occupation	Household work	Employed	Self employed	Retired
	18 (33.3)	15(26.6)	09(16.6)	12(23.3)

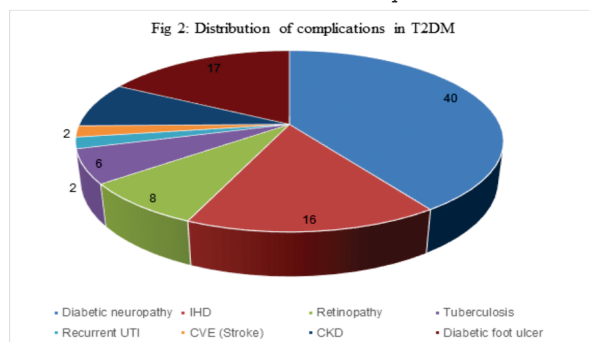
As shown in table 1 majority of patients were from > 40 years age group (90%), from urban area (80%) and belonging to lower middle. The gender distribution was almost equal amongst study participants.



As shown in fig 1, intake of high carbohydrate diet is seen in 14(46%), daily walking in 24(80%) and family history of DM in 18 patients (60%).

Duration of DM	> 5 years	38 (70%)
	< 5 years	16 (30%)
DM control	Yes	1(3%)
	No	53 (97%)
Type of medication	OHA	26 (46.6%)
	OHA + Insulin	22 (43.3%)
	Insulin	06 (10%)
Adherence to medication	Yes	34(63%)
	No	09 (37%)

As shown in table 2, 70% of patients were with more than 5 years of diabetes mellitus, while 97% were with uncontrolled glycemic parameters, 53% patients with Insulin treatment and medication adherence was mentioned by 37%



As shown in fig 2 most common complication observed was diabetic neuropathy in 20(40%) and least common complications were acute infectious disease (UTI) 2(1%). 5(10%) patients were without any diabetic complications

DISCUSSION

India is currently experiencing an epidemic of diabetes mellitus. According to World Health Organization (WHO), India has the unique distinction of being the country with largest number of diabetic patients in the world.[7]

In the present study, majority of cases were between 40-59 years (46.6%) followed by >60 (43.3) and 20-39 years (10%) years. The mean age of cases was 57.33 ± 14.89 years. More than half of cases were males (56.6%). This is in line with study conducted by Arvind Kumar et al. and Kumar & Gupta.[8]

As per the study conducted by Arvind Kumar et al, found that out of total 333 subjects 146 (53.8%) were males and 126 (46.3%) were females. Age range was < 30- > 60 years with mean age 48.53 ± 11.48 years.

Diabetes Mellitus was found more in the age group of 51-60 years followed by 41-50 years age group [Soni]. In a similar type of other study conducted by Sosale et al. out of 4600 patients of type II diabetes mellitus, they found 35% of the diabetics in the age range of 31-40 years.[9]

The disease burden of diabetes mellitus is primarily due to the burden of its complications. In this study, Family history was the most common clinical history of cases 32 (60%). Amongst the diabetic complications, Neuropathy was the most common and seen in 12(23%) of cases followed by foot ulcer and IHD 9 (17%) respectively. While infectious diseases such as recurrent UTI and tuberculosis were seen in 2(3%) and 4(7%) respectively was the third most common complication. This is as per the study conducted by soni and zoheb et al.[10] while whereas Arvind Kumar et al found neuropathy in 7.7% patients and retinopathy in 4.8% patients and foot ulcers in 5.9% patients out of total 333 patients in their study. In the present study, more than half of cases had diabetes between 1-5 years 16 (30%) while 38 (70 %) had a history of more than 5 years of diabetes. The mean duration of diabetes was 12.24 ± 10.77 years. This finding is line with the study by Raju in which the mean duration of diabetes was 13.8 years.[11] . However, Gohel et al. reported that the average duration of diabetes was 9.78 years.[12] In this study, About one third of cases were Retired 12(23.3%), self-employed 9(16.6%) employed 14(26.6%) and household workers 18(33.3%) this is in line with the study conducted by Islam et al.[13]

CONCLUSION

Regular exercise, a complete ban on junk food across all age groups, and a nutritious diet are effective ways to prevent its onset. Given the observed results, it is essential to develop educational programs for healthcare professionals on diabetes management to address the complexities of care and disease progression.

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