

A Cross-Sectional Study of Prevalence and Complications of Diabetes at a Tertiary Care Teaching Hospital

Anupam Sharma¹, Shiv Nath Singh^{2*}

¹Assistant Professor, ²Professor, Department of General Medicine, Rajshree Medical Research Institute & Hospital, Bareilly, Uttar Pradesh, India.

ABSTRACT

Background: In recent years, there has been a marked change in life-style of people caused by economic growth, affluence, urbanization and dietary westernization. That is why the prevalence of diabetes mellitus has risen dramatically. The purpose of our study was to assess the prevalence and awareness of diabetes mellitus in population.

Material and Methods: This cross-sectional study was conducted among 46 people of age 45-60 years. All relevant clinical history was taken before the commencement of the study. Statistical analysis was done by using SPSS, version 15 (SPSS, Inc., Chicago, IL) and $p < 0.05$ was considered statistically significant.

Results: Total participants were 46 in which 28 were male and 18 were females. In both male and females the main cause of diabetes was hormones. Hereditary diabetes was more common in males whereas in females diabetes caused by obesity was more common. Diabetic foot was the most prevalent complication of diabetes in both male and females.

Conclusion: Diabetes is very common due to urbanization and changing life style. Proper knowledge about diabetes can help in prevention of disease. Hence community level awareness programs have to be organized.

Keywords: Diabetes, Diabetic Foot, Urbanization.

*Correspondence to:

Dr. Shiv Nath Singh,
Professor,
Department of General Medicine,
RMRI, Bareilly, Uttar Pradesh, India.

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INTRODUCTION

According to International Diabetes Federation estimates, around 415 million people had DM in 2015 and this number is expected to rise to 642 million by 2040.¹ According to the World Health Organization (WHO) report, India today heads the world with over 32 million diabetic patients and this number is projected to increase to 79.4 million by the year 2030.²

Urbanization and technology use led to westernization due to cultural acculturation. This has been associated with the high prevalence of DM in many indigenous populations and in developing economies³, whereas surrogate markers for improved socioeconomic status, such as level of attained education and income, found to be inversely associated with diabetes in high-income countries.⁴

Throughout the process of development and urbanization, national economies are shifting away from physically active economic activities like farming, mining, forestry, and so forth to a more sedentary, often office-based, occupations.⁵ Thus, the present study was conducted to assess the prevalence and awareness of diabetes mellitus in population.

MATERIALS AND METHODS

This cross-sectional study was conducted among 46 people of age 45-60 years at Department of General Medicine, Rajshree Medical Research Institute & Hospital, Bareilly, UP, India. Ethical considerations should be taken. Written informed consent was taken from the participants. All relevant clinical history was taken before the commencement of the study. Statistical analysis was done by using SPSS, version 15 (SPSS, Inc., Chicago, IL) and $p < 0.05$ was considered statistically significant.

RESULTS

In our study total participants were 46 in which 28 were male and 18 were females. Table 2 shows the causes of diabetes. In both male and females the main cause of diabetes was hormones. Hereditary diabetes was more common in males whereas in females diabetes caused by obesity was more common. Graph 1 shows the complications among diabetic population. Diabetic foot was the most prevalent complication of diabetes in both male and females.

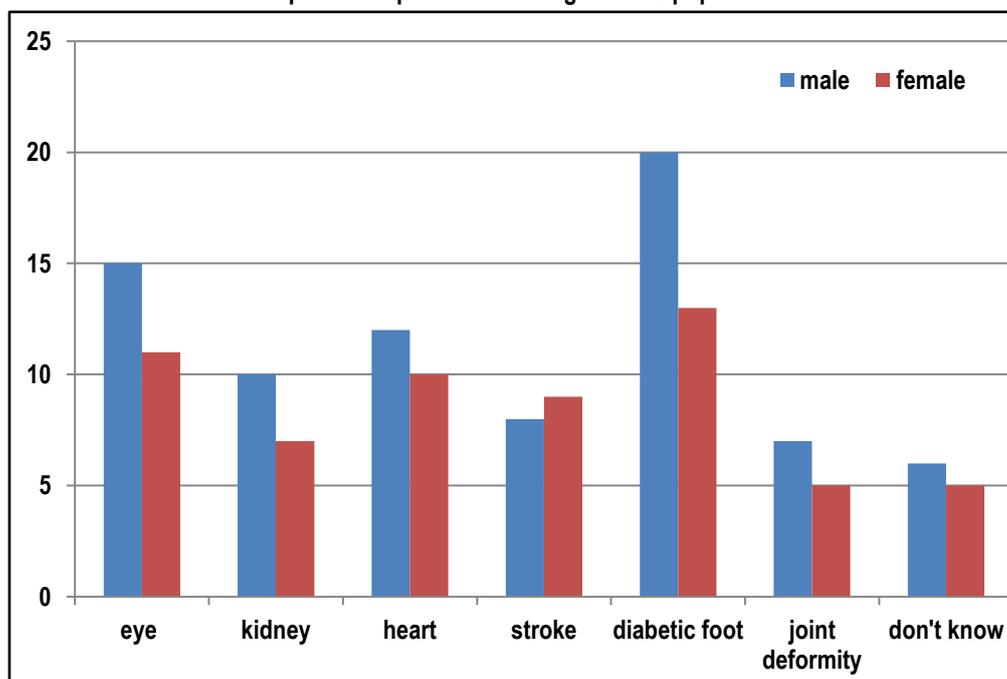
Table 1: Distribution of gender who were diabetic

Gender	N(%)	p-value
Male	28(60.86%)	<0.05
Female	18(39.13%)	
Total	46(100%)	

Table 2: Causes of diabetes among population

Causes	Number of participants	
	Male	female
Hormonal	11	6
Hereditary	5	1
Consuming more sweets	3	2
Obesity	2	3
Others	3	1
Don't know	4	5

Graph 1: Complications among diabetic population



DISCUSSION

Urbanization as a process is simultaneously changing the daily lifestyle in the form of increase in fat consumption, physical inactivity, and substance abuse with associated risk of development of chronic diseases like hypertension and diabetes mellitus. It is a cause of concern in developing countries as it shares a significant proportion of the world population and so the morbidity and mortality due to chronic diseases.^{6,7} In India, it was found that the prevalence of Diabetes mellitus was two and half times higher in urban than in rural area.⁸

In our study total participants were 46 in which 28 were male and 18 were females. In both male and females the main cause of diabetes was hormones. Hereditary diabetes was more common in males whereas in females diabetes caused by obesity was more common. Diabetic foot was the most prevalent complication of diabetes in both male and females.

Hu M et al conducted a study and results of the study shows that the overall prevalence of diabetes of 8.0%. Among 655 participants with diabetes, 52.5% were aware they had diabetes.⁹ A study by Kapoor D et al shows that Diabetes mellitus showed a significant high prevalence among urban tribes with prehypertension (urban: 8.3%; tribal: 2.9%;), and stage 1 (urban: 14.1%; tribal: 8.7%;) and stage 2 (urban: 17.5%; tribal: 13.9%;) hypertension.¹⁰

Muninarayana C et al reveal that ten percent of the 311 adults screened had hyperglycemia. Half of the interviewed population had some awareness about diabetes and its symptoms. But more than half (75%) of them were not aware of the long term effects of diabetes and diabetic care.¹¹

Maori L et al conducted a study and reveals the prevalence rate was 17 (34%) for males and 8 (23.5%) for females within the age

group 21-40, 33 (66%) for males and 26 (76.4%) for females within the age group 41 and above. However, none of the samples obtained within the age group 0-21 was positive. This high prevalence rate within the age range of 41 and above is an indication that diabetes is much more evident in the older generation, and control measures need to be in place to check this menace.¹²

Mookambika R.V et al shows that 60% of the diabetics know that management of Diabetes includes diet, exercise and drugs. Among the study population only 74% are taking diabetic medication regularly. 52.5% of the study population did their blood sugar check-up once a month while 83% of the study subjects do their blood sugar check-up at lab.¹³

CONCLUSION

Diabetes is very common due to urbanization and changing life style. Proper knowledge about diabetes can help in prevention of disease. Hence community level awareness programs have to be organized.

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