

Socio-Demographic and Clinical Profile of Diabetes Patients Attending in A Tertiary Care Hospital in North India

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Abstract

Original Research Article

Objective: To find the socio-demographic and clinical profile of diabetes patients attending in a tertiary care hospital in north India. **Methods:** This was a hospital based retrospective study conducted in a tertiary care hospital in north India. The records of all the patients diagnosed for either type-1 or type-2 diabetes who visited hospital out-patient department during the period of one year were noted on pre-designed proforma. A total of 333 cases of diabetes were enrolled in the study. Out of these, 61 cases were diagnosed as new cases (those who were diabetic for last one month preceding the enrollment). Thus, 272 cases were finally analyzed for the study. **Results:** About one third of cases were between 51-60 years (30.9%). More than half of cases were males (53.7%). More than half of cases were illiterate (64%). About one third of cases were professional (31.6%). More than half of cases had duration of diabetes between 1-5 years (57.4%). The mean duration of diabetes was 5.22±5.05 years. Family history was the most common clinical history of cases (38.2%). Hypertension was the most common clinical history of cases (18.8%). Dyslipidemia was the third most common clinical history of cases (8.1%). Hyperthyroidism was least common clinical history of cases (1.8%).

Keywords: Diabetes, Demographic, Clinical profile.

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INTRODUCTION

According to the estimates, about 285 million people worldwide (6.6%) in the age 20-79 years will have diabetes in 2010 and by 2030, 438 million people (7.8%) of the adult population is expected to have diabetes. The global increase in the prevalence of diabetes is due to population growth, aging, urbanization and an increase of obesity as well as physical inactivity. The primary determinants of the epidemic are the rapid epidemiological transition associated with changes in dietary patterns and decreased physical activity. Unlike in the West, where older populations are most affected, the burden of diabetes in Asian countries is disproportionately high in young to middle-aged adults [1]. Studies from India and the USA have shown increased prevalence of diabetes in younger population [2, 3]. In India, 10 per cent of diagnosed patients with diabetes were less than 30 yr of age in 2002 [4].

Education is one of the key components in ensuring better treatment and control of diabetes. There is also evidence to show that increasing knowledge regarding diabetes and its complications has significant

benefits including increase in compliance to treatment, thereby decreasing the complications associated with diabetes. Most diabetes prevention efforts in Indian communities have been secondary or tertiary prevention programs targeting adults with type 2 diabetes. The approaches often combine a number of strategies, including health education, health fairs, fitness programs, nutrition education, etc., and are delivered in a shotgun method with the expectation that one or two of the strategies will be effective. Prevention programmes are often implemented with little or no pilot testing, assuring poor outcomes [5].

Diabetes mellitus coming at young age is a big challenge for parents and treating clinicians. Type 1 diabetes being the commonest etiology in this age group but type 2 is also coming parallel to its increase in adults especially in last two decades [6]. Patients with type 1 diabetes are predisposed to acute complications in the form of diabetic ketoacidosis and hypoglycemia, if insulin is either omitted or overused. Goals of treatment in young children are individualized depending on their age. At very early age, the main goal of treatment is to keep child free from acute

complications and undesired symptoms at the same time ensuring a normal sleep, growth and development and a relative restriction free food habits [7]. Chronic complications of diabetes are less often seen up to five years of age or the initial five years of onset of diabetes in type 1 diabetes [8]. In type 2 diabetes macro vascular complications because of insulin resistance could be an issue. There have been many studies across the world on the prevalence of diabetes in young [9, 10].

The present study was conducted to find the socio-demographic and clinical profile of diabetes patients attending in a tertiary care hospital in north India.

MATERIAL AND METHODS

This was a hospital based retrospective study conducted in a tertiary care hospital in north India. The records of all the patients diagnosed for either type-1 or type-2 diabetes who visited hospital out-patient department during the period of one year were noted on pre-designed proforma.

STATISTICAL ANALYSIS

Data were entered in excel sheet and then analyzed using Microsoft Excel 2007.

RESULTS

A total of 333 cases of diabetes were enrolled in the study. Out of these, 61 cases were diagnosed as new cases (those who were diabetic for last one month preceding the enrollment). Thus, 272 cases were finally analyzed for the study.

About one third of cases were between 51-60 years (30.9%) followed by 41-50 (29%), 30-40 (22.8%), >60 (12.5%) and <30 (4.8%) years. The mean age of cases was 48.53±11.48 years. More than half of cases were males (53.7%). More than half of cases were illiterate (64%) followed by primary-middle & graduate+ (12.1%), intermediate (12.1%) and high school (5.5%). About one third of cases were professional (31.6%) and housewife (29%). The percentage of obesity was 11.4% (Table-1).

More than half of cases had duration of diabetes between 1-5 years (57.4%) followed by 6-10 (22.8%), <1 (8.5%), >15 (6.2%) and 11-15 (5.1%) years. The mean duration of diabetes was 5.22±5.05 years (Table-2).

Family history was the most common clinical history of cases (38.2%). Hypertension was the most common clinical history of cases (18.8%). Dyslipidemia was the third most common clinical history of cases (8.1%). Hyperthyroidism was least common clinical history of cases (1.8%) (Table-3).

Table-1: Distribution of demographic profile of diabetes cases

| Demographic profile | No. (n=272) | % |
|---------------------|----------------|------|
| Age in years | | |
| <30 | 13 | 4.8 |
| 30-40 | 62 | 22.8 |
| 41-50 | 79 | 29.0 |
| 51-60 | 84 | 30.9 |
| >60 | 34 | 12.5 |
| Mean±SD | 48.53±11.48 | |
| Gender | | |
| Male | 146 | 53.7 |
| Female | 126 | 46.3 |
| Education | | |
| Illiterate | 174 | 64.0 |
| Primary-middle | 33 | 12.1 |
| High school | 15 | 5.5 |
| Intermediate | 17 | 6.2 |
| Graduate + | 33 | 12.1 |
| Occupation | | |
| Housewife | 79 | 29.0 |
| Business | 41 | 15.1 |
| Labor | 20 | 7.4 |
| Farmer | 20 | 7.4 |
| Professional | 86 | 31.6 |
| Service | 19 | 7.0 |
| Retired | 7 | 2.6 |
| Obesity | | |
| Present | 31 | 11.4 |
| Absent | 241 | 88.6 |

Table-2: Distribution of duration of diabetes cases

| Duration in years | No. (n=272) | % |
|-------------------|----------------|------|
| <1 | 23 | 8.5 |
| 1-5 | 156 | 57.4 |
| 6-10 | 62 | 22.8 |
| 11-15 | 14 | 5.1 |
| >15 | 17 | 6.2 |
| Mean±SD | 5.22±5.05 | |

Table-3: Distribution of clinical profile of diabetes cases

| Clinical profile# | No. (n=272) | % |
|-----------------------------|----------------|------|
| Family history of diabetes | 104 | 38.2 |
| Hypertension | 51 | 18.8 |
| Tuberculosis | 12 | 4.4 |
| Ovarian cyst | 11 | 4.0 |
| Edema | 16 | 5.9 |
| Diabetic foot | 16 | 5.9 |
| Cataract | 15 | 5.5 |
| CAD | 17 | 6.2 |
| Depression | 17 | 6.2 |
| Retinopathy | 13 | 4.8 |
| Neuropathy | 21 | 7.7 |
| COPD | 13 | 4.8 |
| Cervical spondylitis | 11 | 4.0 |
| Hypothyroidism | 8 | 2.9 |
| Hyperthyroidism | 5 | 1.8 |
| Sub-clinical Hypothyroidism | 10 | 3.7 |
| Anemia | 15 | 5.5 |
| Dyslipidemia | 22 | 8.1 |
| Seizer | 7 | 2.6 |
| Weight loss | 10 | 3.7 |

#Multiple response

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.

In the present study, about one third of cases were between 51-60 years (30.9%) followed by 41-50 (29%), 30-40 (22.8%), >60 (12.5%) and <30 (4.8%) years. The mean age of cases was 48.53 ± 11.48 years. More than half of cases were males (53.7%). Soni and Zoheb found that out of total 136 subjects 79 (58.08%) were males and 57(41.9%) were females. Age range was 20-40 years with mean age 32 ± 4.3 years. Diabetes Mellitus was found more in the age group of 35-40 years followed by 30-35 years age group [11]. 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 [12].

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 (38.2%). Hypertension was the most common clinical history of cases (18.8%). Dyslipidemia was the third most common clinical history of cases (8.1%). Obesity was in 11.4% of the cases. Hyperthyroidism was least common clinical history of cases (1.8%). Soni and Zoheb reported that 8% of the cases had positive family history of diabetes mellitus and mean BMI of the cases was 23.2

kg/mtr². [11] However, Zargar *et al.* found the positive family history in 4.6% of the cases and mean BMI of the cases was >25 kg/m² [13].

In the present study, more than half of cases had duration of diabetes between 1-5 years (57.4%) followed by 6-10 (22.8%), <1 (8.5%), >15 (6.2%) and 11-15 (5.1%) years. The mean duration of diabetes was 5.22 ± 5.05 years. This finding is lower than the study by Raju in which the mean duration of diabetes was 13.8 years [14]. However, Gohel *et al.* reported that the average duration of diabetes was 9.78 years [15].

In this study, More than half of cases were illiterate (64%) followed by primary-middle & graduate+ (12.1%), intermediate (12.1%) and high school (5.5%). About one third of cases were professional (31.6%) and housewife (29%). Daga *et al.* reported that out of total 100 patients, seventeen patients were studying in primary classes, eighteen were studying in middle classes, fourteen were in secondary classes, seven were in higher secondary, five were doing graduation and one was doing post-graduation [10]. Rana *et al.* reported that majority of the patients were either educated upto primary or they were illiterate [16]. While Patel *et al.* observed that majority of their patients had graduate education and illiterates formed a mere one percent in their study [17]. In a study by Islam *et al.* 40% of the respondents were daily wagers/labors, followed by 19.2% service holders, 17.7% businessmen, and 8.5% housewives [18].

Soni and Zoheb found complications of Type II DM like neuropathy, nephropathy, retinopathy and foot ulcers were found in 5.8%, 2.2%, 1.4% and 1.4% respectively [11]. Whereas Suresh *et al.* found neuropathy in 10 patients, nephropathy in 6 patients, retinopathy in 7 patients and foot ulcers in 3 patients out of total 130 patients in their study [19].

CONCLUSION

Daily exercises, blanket ban on junk foods in all the age groups and healthy diet are ways to prevent its onset. In face of the obtained results, there is need to develop courses to the health professionals of education in diabetes aiming to meet the complexity of the care and progression of the disease.

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