

## A Study of Socio-demographic Profile of Persons with Diabetes in Twin-Cities- Special reference to Hyderabad and Secunderabad

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**Abstract:** *Diabetes is one of the chronic non-communicable diseases has been rapidly increasing with number of patients in the modern technological world. Mostly in urban areas prevalence has been raising due to changes in the life style, food, occupations, environment and other factors. It is essential to know about the socio-demographic details of the persons with diabetes to develop plans for creating awareness among those individuals to overcome multiple health complications at all levels. This study aims to understand and analyse the socio-demographic profile of the persons with diabetes in Hyderabad city, Telangana State. Descriptive research design was used in this study with a structured questionnaire. Total sample of 220 respondents having diabetes were interviewed using purposive sampling method in two government and four private hospitals of Hyderabad city. Among the 220 respondents majority participants are female with 120 and male participants are 100. The study included all age groups, caste, religions, various income level and occupational groups to understand the prevalence of diabetes in different socio-demographic settings. It is good to identify that out of 220 respondents majority of the respondents (68.2 percent) are following diet plan regularly followed by 27.3 percent with rarely following diet/meal plan. But it is disheartening to know that majority of the diabetes respondents (55 percent) are not doing exercise regularly.*

**Key Words:** *Diabetes, health, prevalence, socio-demographic, diet, exercise.*

### 1. INTRODUCTION :

Diabetes is a chronic, metabolic disease characterized by elevated levels of blood glucose (or blood sugar), which leads over time to serious damage to the heart, blood vessels, eyes, kidneys and nerves. The most common is type 2 diabetes, usually in adults, which occurs when the body becomes resistant to insulin or doesn't make enough insulin. In the past three decades the prevalence of type 2 diabetes has risen dramatically in countries of all income levels (Global Report on Diabetes, WHO). There is a globally agreed target to halt the rise in diabetes and obesity by 2025. According to International Diabetes Federation (IDF) there are 537 million people living with diabetes and it is projected that by 2045 700 million will have disease worldwide. Diabetes has devastating effects on individuals, societies and countries or territories and leads to over 4 million deaths a year. IDF Atlas data reveals that one in six people with diabetes in the world is from India. The numbers place the country among the top 10 countries for people with diabetes, coming in at number India is the 2<sup>nd</sup> highest with an estimated 77 million diabetics. China leads the list with over 116 million diabetics.

Diabetes can have a significant impact on both physical and psychological functioning of a human being which can weaken their health and quality of life. In terms of psychological functioning, the needs of diabetes care can have an effective influence on mood, both short-term and long-term (Surwit, 2002). Diabetes is a major cause of blindness, kidney failure, heart attacks, stroke and lower limb amputation. Poorly controlled diabetes increases the chances of these complications and premature mortality. In addition, people with diabetes are at higher risk of presenting cardiovascular diseases and tuberculosis, especially those with poor glycemic control.

The lifetime risk of developing prediabetes was estimated to be 57% (53–60), 44% (40–48) for diabetes, and 79% (77–81) for hypertension. The incidence of diabetes was estimated to be 0.027 (0.024–0.030) per person per year, with a mean age of diagnosis at 56 years (Gunjeet Kaur, 2021).

Low levels of disease awareness and poor care seeking are the two major barriers for timely detection and treatment of diabetes and hypertension. Consequently, several countries have initiated screening programmes for early detection of these diseases, which vary from targeted and facility-based screening to population-wide community-based screening (National Centre for Disease Control, 2019).

## **2. REVIEW OF LITERATURE:**

Chaudhary G. et al (2019) in their study entitled 'Demographic and Clinical Characteristics of 4556 Type 2 Diabetes Mellitus Patients at a Tertiary Care Hospital in Southern Punjab' a descriptive study was carried out at the Diabetic Outdoor Nishtar Hospital Multan from 2013 to 2018. Sample of 4,556 patients with type 2 DM were analyzed. There were 2549 (55.9%) female and 2007 (44.1%) male participants in our study. The mean age of our study population was 47.72 years with a standard deviation (SD) of 10.82 years. Seventy-nine percent of the patients belonged to urban areas. Females were more likely to be obese than males in all parameters of obesity. Central obesity was much more common in female diabetics as compared to male diabetics.

Shaikh et al (2013) conducted study entitled 'TYPE 2 DIABETES; Effects of socio-demographic factors among patients'. This study is cross-sectional by design, conducted at National Institute of Diabetes and Endocrinology (NIDE), Dow University of Health Sciences, Karachi, Pakistan, where the patients get registered and are regularly followed-up. The data of 1029 diabetic patients was collected during the period from March 2008 to December 2009. The mean age of the study sample was  $50.5 \pm 12.1$  years. Fifty two percent study participants were males and 48% females. They were from various occupations, educational levels and socio-economic strata. Among these diabetics, 73% had family history of diabetes; 20% were doing exercise, 20% knew self-monitoring blood glucose and 6% had knowledge to inject insulin. Only 29% followed diabetes diet.

Sadia Saber et al (2021) conducted their study on 'Study on Socio-Demographic and Anthropometric Profile among Newly Detected Diabetic Patients Attending in a Tertiary Care Teaching Hospital, Dhaka Bangladesh'. This is a hospital-record based cross sectional descriptive study executed in a tertiary care teaching hospital, Dhanmondi, Dhaka. The study group comprises 165 newly detected diabetic patients enrolled in Bangladesh Medical College Hospital from July 2019 to June 2020. Among the 165 study participants, it is found that 62 were males and 103 were females. Newly detected DM was more common among 36-50 years of age group followed by 51-65 years. Majority of the participants belonged to urban areas (53.94%) and were graduates (38.18%). Positive family history of DM was found among 93 patients. Nearly 55.76% diabetic patients were overweight followed by 23.63% were obese with moderate to low levels of physical activities were observed mostly.

## **3. METHODOLOGY:**

### **3.1 STUDY AREA**

This study was conducted in two governments and four private hospitals of Hyderabad district, Telangana State which is one of the southern states in India and previously part of the United Andhra Pradesh.

Study Period: The study collected the data from the respondents during January 2022 and February 2022.

### **3.2 RESEARCH DESIGN**

Descriptive research design was used in this study with a structured questionnaire. A purposive sampling method was used for the study where two (2) government and four (4) private hospitals in Hyderabad city were selected after obtaining their consent.

### **3.3 SAMPLING:**

For this study a total of 220 diabetic patients over 35 years old have been selected for the study. Of which there are 100 male and 120 female respondents were there with both type-1 and type-2 diabetes mellitus. The study has been carried out in Hyderabad city which is one of the biggest Metropolitan areas in India. A total of two (2) government hospitals namely Basthi daawakana and urban primary health centre and four (4) Private hospitals namely, Yeshodha, Vanaja, Sunflower and Ratu have been selected using purposive sampling method.

## **4. DATA ANALYSIS AND INTERPRETATION:**

### **4.1 SOCIO-DEMOGRAPHIC PROFILE OF PERSONS WITH DIABETES**

#### **4.1.1 AGE-WISE DISTRIBUTION OF THE RESPONDENTS**

In this study, Age plays a significance role since it is related with stress and Diabetes. At any age Stress is a part of life, where during childhood, children need constant attention from parents if neglected they face a lot of stress. Young adults struggle to establish career or financial security and faces pressures like family demands and work pressure. Older people face health issues or unmet finances or they fail to be independent and struggle with the challenges of their independence.

The body's natural defence against stress gradually break down with age also stress can speed up aging. A study published in the proceedings of National Academy of Sciences found that stress can add years to the age of individual Immune system cell. In this area of study Stress play a major role among diabetes which can speed up aging and the different drugs that Doctors prescribe depending on the age also may lead to other health ailments which can cause stress and the number of years they live with diabetes and stress play a major role. Hence Age, has been considered as an important variable in this study since Diabetes is a chronic illness and constantly they will be under stress.

Table 1: Age of the respondents

S.No	Age group	Frequency	Percent
1	below 35 years	13	5.9
2	35 to 45 years	40	18.2
3	45 to 55 years	68	30.9
4	above 55 years	99	45
Total		220	100

From the above table, it is observed that majority of the respondents with diabetes are in the age group of above 55 years constituting 45 percent followed by 45 to 55 years age group with 31 percent. Nearly 18 percent of the sample respondents belong to the age group of 35 to 45 years. Only 6 percent of the respondents are below 35 years age group.

#### 4.1.2 GENDER DISTRIBUTION OF THE RESPONDENTS

In this study gender is used to refer male and female where their roles are socially constructed with particular identities and behaviors. Woman experience different symptoms and men experience different symptoms in diabetes and experience stress and coping levels that may or may not be different.

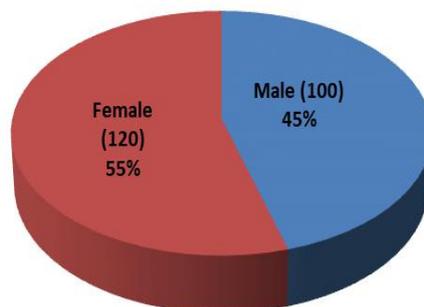


Fig. 1 Gender of the respondents

Overall gender-wise distribution of the sample diabetes respondents shows that highest percentage of the respondents i.e. 54.5 percent belong to the female category where out of 220 respondents 120 are women diabetes. Remaining 45.5 percent respondents are male with 100 in number.

Table 2: Marital Status of the respondents

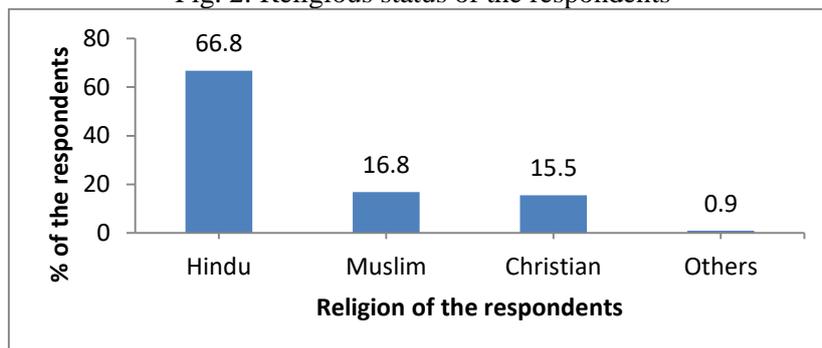
S.No	Marital Status	Frequency	Percent
1	Single	15	6.8
2	Married	173	78.6
3	Widow	31	14.1
4	widower	1	0.5
Total		220	100

From the above table, the data reveals that out of 220 respondents more than three-fourth (78.6 percent) of the respondents said that they are married followed by marital status of widow with 14.1 percent. Nearly 7 percent of the respondents are single. Very least percent (0.5 %) of the respondent's i.e. only respondent is widower.

#### 4.1.3 RELIGIOUS STATUS OF THE RESPONDENTS

Religion helps in creating an ethical frame work and also a regulator for values in day today life. Religion acts an agency of socialization it helps in building values like love, empathy, self-respect and harmony. It plays a crucial role in giving a cultural identity. Religious community gives people a sense of belonging and provides an important source of social support and encourages people to lead healthier life styles.

Fig. 2: Religious status of the respondents



From the above table it can be observed that out of 220 sample diabetes respondents majority of the respondents i.e. 66.8 percent are Hindus followed by Muslim religious status with 16.8 percent. With slight difference Christian respondents constitute 15.5 percent and other religious groups account for 0.9 percent.

#### 4.1.4 CASTE-WISE DISTRIBUTION OF RESPONDENTS

One's caste affects their options regarding marriage, employment, education, economic mobility housing etc. It solves economic problem in each and every individual as it is attached with an occupation and as it is hereditary in nature one can follow his traditional occupation. Through his specialised occupation one can solve his economic problem. The patterns of taking food, wearing dress, keeping relations with other castes gives the individual identity.

Table 3: Caste wise distribution of respondents

S.No	Caste	Frequency	Percent
1	SC	58	26.4
2	ST	8	3.6
3	BC	118	53.6
4	OC	36	16.4
	SC	58	26.4
Total		220	100

Caste-wise distribution of the respondent's data from the above table shows that out of 220 respondents majority of them i.e. 53.6 percent belongs to the other backward caste (OBC) followed by Scheduled Caste (SC) with 26.4 percent. Nearly 16 percent sample respondents belong to Other Caste (OC) group. Very least number of respondents are of Scheduled Tribe (ST) account for only 3.6 percent.

#### 4.1.5 EDUCATIONAL QUALIFICATION OF RESPONDENTS

Education helps us to lead a good and healthy life, helps us to know the uses of various types of food and its nutritional values in dealing with health issues in protecting from diseases and leading a healthy life style which avoids many health problems and helps to manage stress. One should be aware of the things that affects our daily life especially need to have the knowledge about the particular diseases to deal with it manage efficiently and coping with the problem to lead a stressful life

Table 4: Educational qualification of respondents

S.No	Education	Frequency	Percent
1	Illiterate	64	29.1
2	1 to 5th class	28	12.7
3	6th to 12th class	77	35.0
4	Graduation and above	51	23.2
Total		220	100

From the above table Education qualification of sample respondent's data reveals that out of 220 respondents more than one-third of the respondents i.e. 35 percent are 6<sup>th</sup> to 12<sup>th</sup> class educational group followed by illiterates

account for 29.1 percent. Around 23 percent of the respondents said that they belong to graduation and above educational group. Least percent (12.7 %) of the respondents belong to the educational group of 1 to 5<sup>th</sup> class.

#### 4.1.6 OCCUPATIONAL AND INCOME LEVELS THE RESPONDENTS

Occupation helps an individual to maintain his or her living standards; it enhances the qualification skills and capacities of professionals. It helps for personality development and people who are involved in occupation earn social respect. It has a set of behaviours connected to social norms that allows someone to organise and allocate time for self-care activities and enjoys work and payment. The quality of life may also depends upon the kind of occupation the individual have.

Table 5: Occupation of the respondents

S.No	Occupation	Frequency	Percent
1	Unskilled	89	40.5
2	Skilled	53	24.1
3	Business	21	9.5
4	Professionals	57	25.9
Total		220	100

Various occupational groups were studied in this research where from the above table no. 5, it is found that majority of the respondents (40.5 percent) are engaged in unskilled work followed by professionals constituting 26 percent. Nearly 24 percent of the respondents are engaged in skilled work and the least percentage of the occupational group is business having only 9.5 percent of total respondents.

Table 6: Income levels of respondents per month

S.No	Income	Frequency	Percent
1	Below Rs.15000	95	43.2
2	Rs.15000 to Rs. 30000	75	34.1
3	Rs.30000 to Rs.50000	41	18.6
4	Above Rs.50000	9	4.1
Total		220	100

The above table no. 6 represents the income levels of the respondents, it is observed that out of 220 respondents, majority of the respondents i.e. 43 percent are having low income levels in the with below Rs. 15000 per month followed by 34 percent respondents are in the income levels of Rs. 15000 to Rs. 30000 per month. There are 18.6 percent respondents having income level with the range Rs. 30000 to Rs. 50000 per month. Only 4 percent respondents are earning above Rs. 50000.

Table 7: Respondents size of the family

Size of the family	Frequency	Percent	Cumulative Percent
1	4	1.8	1.8
2	44	20	21.8
3	34	15.5	37.3
4	82	37.3	74.5
5	37	16.8	91.4
6	14	6.4	97.7
7	1	0.5	98.2
8	2	0.9	99.1
9	2	0.9	100
Total	220	100	

The above table represents the size of the respondent's families it is observed that more than one third of the respondents i.e. 37.3 percent are having four members in the family followed by 20.0 percent of respondents with two members in the family. It was amazed that 16.8 percent of the respondents are of family members with five in size and 6.8 percent account for six in size of the family. Overall nearly 75 percent of the respondents of diabetes are having 1 to four members in their family.

#### 4.2 RESPONDENTS ON TYPE OF DIABETES AND THEIR HOSPITAL PREFERENCE FOR TREATMENT

Table 8: Respondents with Type 1 or Type 2 diabetes

S.No	Type of diabetes	Frequency	Percent
1	Type-1	31	14.1
2	Type-2	189	85.9
<b>Total</b>		<b>220</b>	<b>100</b>

The above table shows that out of 220 respondents majority of the respondents where 85.9 percent said that they are having type-2 diabetes and remaining 14.1 percent respondents said that they are having type-1 diabetes. A study in the year 2004 advocates that the prevalence of type-2 diabetes in Indians is due to changes prevailing in the environment and life style which has been resulted from industrialization and migration from rural to urban areas. The study also found that these changes will occur at early stage in life that means there will be chronic long-term complications that are more common (Mohan, 2004)

Table 9: Respondents hospital preference for taking treatment

S.No	Hospital	Frequency	Percent
1	Private hospital	136	61.8
2	Government hospital	84	38.2
<b>Total</b>		<b>220</b>	<b>100</b>

For diabetic patients the selection of hospital is very important because they need to visit the hospitals for regular check -up or treatment to control diabetes. The above table depicts that out of 220 respondents more than two-third of the respondents i.e. 62 percent said that they are taking treatment in private hospitals. Remaining 38 percent said that they are going to government hospital for treatment.

#### 4.3 RESPONDENTS' RESPONSES ON THEIR LIFE STYLE

Table 10: Percentage of the respondents following diet/meal plan

S.No	Regularity	Frequency	Percent
1	Always	150	68.2
2	Rarely	60	27.3
3	Never	10	4.5
<b>Total</b>		<b>220</b>	<b>100</b>

Healthy diet plan is important to every person for good health. It is more essential for the diabetic patients to control their level of diabetes and it protects against various non-communicable diseases such as heart issues, cancer and others. From the above table, it is happy to see that out of 220 respondents majority of the respondents i.e. 68.2 percent said that they are following diet plan regularly followed by 27.3 percent with rarely following diet/meal plan. Very low percent (4.5 %) respondents said that they never followed any diet/meal plan. Overall, a positive response can be seen from the sample diabetic patients that they are following the diet/meal plan to maintain their level of diabetes at normal.

Table 11: Respondent's responses on their frequent exercise levels

S.No	Regularity	Frequency	Percent
1	Always	99	45.0
2	Rarely	60	27.3
3	Never	61	27.7
<b>Total</b>		<b>220</b>	<b>100</b>

Exercise makes people to control their weight, reduces the risk from affecting with long term chronic diseases including obesity type-2 diabetes and high blood pressure. Exercise will reduce the level of stress and anxiety among the individuals who do exercises regularly. Information relating to this was asked to respondents, from the table it is disheartening to know that out of 220 respondents only 45.0 percent are regularly doing exercise followed by 27.3 percent who are doing exercise rarely. Nearly 28 percent of the respondents said that they are not doing any exercise.

Table 12: Respondents responses on other health problems

S.No	Regularity	Frequency	Percent
1	Yes	64	29.1
2	No	156	70.9
<b>Total</b>		<b>220</b>	<b>100</b>

From the above table, it is observed that out of 220 sample diabetic respondents majority of them i.e. 71 percent said that they are not having any other health problems. Only 29 percent of the total respondents shared that they are suffering with other health problems. These respondents should take more care as there might be severe health complications due to other health problems.

## 5. CONCLUSION:

Diabetes is one of the chronic non-communicable diseases that has been suffering and distressing many individuals in India. Especially in urban areas there was a steady increase in number of diabetic patients due to urban life style and environmental changes. The study conducted in both private and government hospitals of Hyderabad city, Telangana State reveals that irrespective of various occupational works like people engaged in skilled, unskilled, professional related jobs are having diabetes. Majority of the persons with diabetes are not doing exercise regularly. But majority of them are following meal/diet plan to control their diabetes level. Proper awareness program has to be conducted in all the localities of urban areas regarding the proper measures to be taken for diabetes patients. So, multiple health complications may not arise in future and can have a stress-free life.

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