



PERCEPTION ABOUT CAUSE OF DIABETES AMONG URBAN AND RURAL DIABETICS OF HARYANA

Community Medicine

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ABSTRACT

Background: Correct knowledge about diabetes and its management has an enormous impact on attitude and practice of diabetic patients. There is lot of information available about diabetes, still people have different perceptions about cause of diabetes.

Materials and Methods: Cross-sectional study was carried out from September 2016 to January 2017 among known diabetics more than 18 years of age. A total of 800 diabetics were chosen from urban and rural field practice area attached to Pt. B. D. Sharma, PGIMS, Rohtak. A predesigned and pretested semi-structured questionnaire was filled by interviewing known diabetics in their vernacular language individually.

Results: The age of respondents range from 21 years to 92 years with mean age of 58.03 (+ 12.53) year. 107(26.75%) rural participants and 95(23.75%) urban participants perceived that they got diabetes due to their increased sugar intake.

Conclusion: Diabetic individuals believed that the disease most likely developed from their increased sugar intake (mostly due to adding more sugar in tea and consuming tea 3 or more times a day). Also, many individuals believed physical inactivity due to laziness as cause of their diabetes. To an astonishment few individuals were found who believed that they got diabetes as god's punishment for their past sins. Beliefs and guilt were found associated with the diabetes cause.

KEYWORDS

diabetes, perception

INTRODUCTION

Diabetes is among the top 10 causes of death globally and together with the other three major non communicable diseases (cardiovascular disease, cancer and respiratory disease) account for over 80% of all premature NCD deaths.¹ All countries rich and poor are suffering the impact of the diabetes epidemic. More than 80% of diabetes deaths occur in low- and middle income countries. In 2015, one in eleven adults had Diabetes and it is expected that by 2040 one in every ten adults will be affected by Diabetes²

Perception refers to an idea, a belief or an image a person is having as a result of how he/she sees or understands something.³ Perception might be right or wrong. A wrong perception may lead to development of a misconception. Misconception is defined as a view or an opinion that is incorrect because it is based on faulty thinking or understanding.⁴

Perception about disease or illness is one of significant factors that influence self-care practices, psychological distress and other health outcomes among persons suffering from disease.^{5,6,7} Perceptions and beliefs have a strong influence in the life of individuals and their way of living including seeking treatment during illness.⁸

A number of studies have reported that inadequate knowledge presents significant barrier to effective management of diabetes.^{9,10} It is imperative for physicians to understand perception of community about a disease to improve patient care, especially when dealing with chronic diseases like diabetes.

The association between illness perception and the health outcomes could be due to the fact that engagement in self-care practices involves complex decision making which depends on the patients' representation of their illness in terms of whether it is controllable, comprehensible, curable, cyclical and severe or not. Further evidence has suggested a strong link between diabetes perception and self-care practices.^{10,11,12}

Perceptions about health and disease are determined by multiple factors which include socioeconomic, biological, environmental, cultural and behavioural factors. Among cultural and behavioural factors, the attitudes and beliefs that individuals hold about health and disease play an important role in medical care and public health.¹³

Not many studies have been done to find out variable perceptions among urban and rural population and we do not have much data related to this subject. Therefore, we have tried to find out the

perception of urban and rural diabetics about cause of diabetes.

MATERIALS AND METHODS

The cross-sectional study was conducted in the urban and rural field practice area attached to Department of Community Medicine, Pt. B. D. Sharma PGIMS, Rohtak, Haryana from July, 2016 to June, 2017. Patients who had the prescription of a Registered Medical Practitioner diagnosing patient as diabetic or already taking treatment from more than 6 months were considered Known diabetic. Known diabetics were enrolled in the study because they practice various methods to control the disease and carry various beliefs about the disease. Diabetics of age ≤ 18 years, those who were not willing to participate in the study and patients with known psychiatric illness were excluded from study.

Considering prevalence of 12.3% (as 12.3% participants in study conducted by Gudlavalleti¹⁴ perceived excess sugar intake to be the cause of diabetes), the sample size was calculated using formula

$$N = 4 p \times q / L^2$$

Where, n = sample size

p = prevalence taken

q = (1 - prevalence)

L = allowable error taken as 20% of prevalence

Thus, n = 713. The final study was carried out among 800 diabetics, 400 each from rural and urban area.

SAMPLING TECHNIQUE-

400 known diabetic patients each from Urban and Rural field practice area attached to the Department of Community Medicine, PGIMS, Rohtak were taken.

In rural area, 80 diabetic patients each were taken from area covered by each of 5 PHC's under CHC Dighal (PHC Dighal, Barhana, Bhambeva, Kharhar, Dujana). House to house visit was done by interviewer in each PHC area till the required sample of 80 known diabetics was drawn. First house was selected randomly from adjoining area of each PHC. Similarly, in urban area, 80 diabetic patients were taken from area covered by each of 5 Urban Health Posts (Gandhi camp, Housing Board, Shivaji Colony, Ekta colony, Kamla Nagar) by house to house visit. Houses where more than one known diabetic was found, only one was included using lottery method.

STUDY TOOL- A predesigned and pretested semi-structured

questionnaire which includes information about sociodemographic variables and family history of the study subjects along with duration since diagnosis of diabetes and initiation of treatment was filled by investigator herself by interviewing known diabetics in their vernacular language individually.

Questionnaire included questions on commonest reported perceptions about cause of diabetes (made after pilot study done in one of rural and urban field practice area) with a separate column of any other cause they perceive of and don't know column.

The data was entered in MS Excel and analyzed in percentages and proportions.

RESULTS:

The age of respondents range from 21 years to 92 years with mean age of 58.03 (± 12.53) years. 381(47.6%) were in age group of 40-59 years followed by 318(39.8%) in age group of 60-79 years. 76(9.5%) diabetics were belonging to age group of 20-39 years whereas 25(3.1%) diabetics were of age group 80 years and above. Out of 800 diabetic participants,416(52%) were males and 384(48%) were female. (Table-1)

Table1 shows that majority of participants were unemployed 442(55.2%) followed by 96(12%) were skilled workers and 93(11.7%) were professionals. Only 57(7.1%) were semiskilled workers.

Table 1 depicts that majority of participants 213(26.6%) out of 800 studied till High school, 208(26%) studied till middle school, 158(19.8%) were illiterate and 149(18.6%) were having graduate or postgraduate degree.

In our study, majority of participants 236(29.5%) were of lower upper socio-economic status followed by 213(26.62%) were of lower middle socio-economic class and 193(24.12%) participants of upper middle socio-economic class. There were very few 24(3%) participants of upper socio-economic status.

Majority of rural participants 107(26.75%) perceive that they got diabetes due to increased sugar intake while 23.75% urban participants perceived the same. 70 (17.5%) rural participants perceived that their reason of acquiring diabetes was increased intake of tea (three times a day) and almost 15.5% urban participants were of same view.

11.5% urban diabetics and 15.55 rural diabetics believed that they got diabetes due to presence of family history of diabetes. 50(12.75%) urban and 7.5% rural diabetics considered stress to be the cause for their Diabetes.

Rest 10.5% urban and 15% rural participants did not know the cause of Diabetes

3.5% rural diabetics perceived that diabetes was god's curse on them due to their past sins. In contrast, not even 1% urban participants believed diabetes to be god's curse.

365(45.6%) participants had diabetes from less than 5 years, 250(31.2%) had diabetes from past 5-10 years and 23.1% had diabetes from more than 10 years.

Among participants who answered increased sugar intake as the cause of diabetes, 113(55.9%) had diabetes from less than 5 years while 38(18.8%) had diabetes from more than 10 years.

Perception that increased tea intake leads to diabetes also decreased with increased diabetes duration i.e. 44.6% in less than 5 years group, 32.5% in 5 – 10 years and 22.7 % in more than 10 years group.

Similar trend was observed for previous history of diabetes in family.

On the other hand, perception of stress as the cause of diabetes increased slightly with increasing duration of diabetes i.e. 32.5% to 35%. Participants perceiving God's curse on them to be cause of diabetes increased with increasing duration of diabetes i.e 0%, 5.8%, 94% for less than 5 years , 5-10 years and more than 10 years respectively.

Table 1: Socio Demographic Profile Of Study

Characteristics	Urban	Rural	Total
Age Group			
20-39 years	29 (38.15)	47(61.84)	76(100)
40-59 years	213(55.91)	168(44.09)	381(100)
60-79 years	148 (46.54)	170(53.46)	318(100)
80 years and above	10(40)	15(60)	25(100)0
TOTAL	400	400	800
Gender			
Male	204(49.03)	212(50.96)	416(100)
Female	196(51.04)	188(48.95)	384(100)
TOTAL	400	400	800
Occupation			
Professional	51(54.84)	42(45.16)	93(100)
Clerk/shop owner/farmer	27(30)	63(70)	90(100)
Skilled	44(45.83)	52(54.17)	96(100)
Semiskilled	32(56.14)	25(43.86)	57(100)
Unskilled	15(68.18)	7(31.82)	22(100)
Unemployed	231(52.26)	211(47.74)	442(100)
TOTAL	400	400	800
Education			
Graduate/postgraduate	81(54.36)	68(45.64)	149(100)
Diploma	17(40.48)	25(59.52)	42(100)
High school	99(46.48)	114(53.52)	213(100)
Middle school	131(62.98)	77(37.02)	208(100)
Primary school	5(16.67)	25(83.33)	30(100)
Illiterate	67(42.41)	91(57.59)	158(100)
TOTAL	400	400	800
Socioeconomic Status			
Upper	2(8.33)	22(91.67)	24(100)
Upper middle	136(70.47)	57(29.53)	193(100)
Lower middle	152(71.36)	61(28.64)	213(100)
Lower upper	88(37.29)	148(62.71)	236(100)
Lower	22(16.42)	112(83.58)	134(100)
TOTAL	400	400	800

Table 2: Distribution Of Urban Participants According To Their Perception About Cause Of Diabetes

Perception About Cause Of Diabetes	Sex		Total
	Male	Female	
Increased sugar intake	47(23.04)	48(24.48)	95(23.75)
Lack of exercise	35(17.16)	31(15.81)	66(16.5)
Increased tea intake	35(17.16)	27(13.77)	62(15.5)
Stress	26(12.75)	24 (12.24)	50(12.5)
Hereditary	27(13.23)	19 (9.69)	46(11.5)
Don't know	19(9.31)	23 (11.7)	42(10.5)
Sitting job	15(7.35)	21 (10.71)	36(9)
God's Curse	0 (0)	3 (1.53%)	3(0.75%)
TOTAL	204(100)	196(100)	400(100)

(Figures in parenthesis indicates percentages)

Table-3 Distribution Of Rural Participants According To Their Perception About Cause Of Diabetes

Cause Of Diabetes	Sex		Total
	Male	Female	
Increased sugar intake	53(25)	54(28.7)	107(26.75)
Lack of exercise	11(5.2)	8 (4.2)	19 (4.75)
Increased tea intake	34(16)	36 (19.1)	70(17.5)
Stress	20 (9.4)	10 (5.3)	30 (7.5)
Hereditary	36 (16.9)	26 (13.8)	62 (15.5)
Don't know	33(15.6)	27 (14.4)	60 (15)
Sitting job	23 (10.8)	15(7.9)	38 (9.5)
God's curse	2 (0.9)	12 (6.4)	14 (3.5)
TOTAL	212(100)	188(100)	400(100)

(Figures in parentheses indicate percentages)

Table-4 Distribution Of Participants According To Diabetes Duration And Perception About Cause Of Diabetes

Perception About Cause Of Diabetes	Diabetes Duration			Total
	<5 years	5-10 years	>10 years	
Increased sugar intake	113 (55.9)	51 (25.2)	38 (18.8)	202

Lack of exercise	30 (35.2)	40 (47.05)	15(17.6)	85
Increased tea intake	59(44.6)	43(32.5)	30(22.7)	132
Stress	26(32.5)	26(32.5)	28(35)	80
Hereditary	71(65.7)	29(26.8)	8(7.4)	108
Don't know	21(20.5)	53(51.9)	28(27.4)	102
Sitting job	45(60.8)	7(9.4)	22(29.7)	74
God's Curse	0(0)	1(5.8)	16(94.1)	17
TOTAL	365(45.6)	250(31.2)	185(23.1)	800

(Figures in parentheses indicate percentages)

Figure 1: Bar Graph Showing Distribution Of Urban And Rural Participants According To Their Perception About Cause Of Diabetes

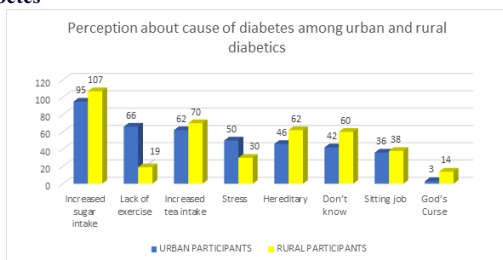
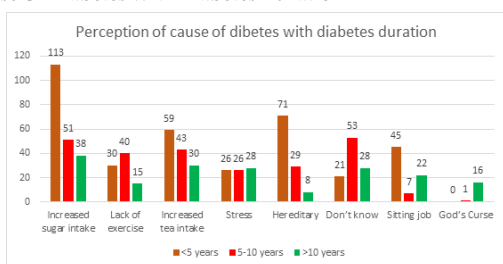


Figure 2: Bar Graph Showing Relation Of Perception About Cause Of Diabetes With Diabetes Duration



DISCUSSION

In our study, majority of rural 107(26.75%) and urban 95 (23.75%) participants perceived that they got diabetes due to increased sugar intake which is close to the findings of study conducted by Little et al in rural Tamil Nadu i.e. 33.3%.¹⁴

However, in a study conducted by Gudlavalleti MV et al¹⁵ among diabetics attending diabetic care clinic, only 12.3% diabetics perceived increased sugar intake to be the cause.

Present study reported that 5.25% rural and 16.5% urban participants perceived lack of exercise to be the cause of diabetes while 8.8% diabetics in study conducted by Gudlavalleti MV et al perceived the same. The findings were also similar to study conducted by Little et al¹⁴ where 5.6% perceived lack of exercise to be the cause of diabetes.

16.75% rural and 11% urban participants believed that they got Diabetes because one of their family member was already suffering from diabetes. 8.75% rural and 12.5% urban considered stress to be the cause for their Diabetes. 15.5% rural and 11% urban participants did not know the cause of Diabetes. This is similar to the findings of study conducted by Little et al where 18.5% perceived the same.

36.1% diabetics perceived heredity to be the cause and 22.1% didn't know the cause in study conducted by Gudlavalleti MV et al.

The difference in results from those of Gudlavalleti MV et al might be due to different study settings. As present study is a community based study where diabetics were interviewed by house to house visit and study conducted by Gudlavalleti MV et al was done in diabetic care clinic.

In a study conducted by Tessaro I et al¹⁵, heredity, obesity, and physical inactivity were all recognized as major factors responsible for diabetes with heredity often being mentioned in combination with another cause.

CONCLUSION

Diabetic individuals said that the disease most likely developed from

their increased sugar intake (mostly due to adding more sugar in tea and consuming tea 3 or more times a day). Also many individuals believed physical inactivity due to laziness as cause of their diabetes. To an astonishment few individuals were found who believed that they got diabetes as god's punishment for their past sins. Beliefs and guilt were associated with the diabetes diagnosis.

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Conflict Of Interest: None

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