

Original Article

Knowledge and awareness regarding Diabetes Mellitus in urban slum of Meerut

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Abstract:

Background: Diabetes was described more than 2000 years ago. For the past 250 years, it has featured in the history of medicine. Since the discovery of insulin, work on diabetes at both cellular and clinical levels has expanded. The worldwide prevalence of diabetes mellitus has risen dramatically in the developing countries over the past two decades. India with the highest absolute number of cases has become the diabetic capital of the world.

Research question: What is the level of knowledge and awareness among adults regarding diabetes mellitus ?

Objective: To study the level of knowledge and awareness regarding diabetes in adults of urban slum in Meerut.

Study Design: Cross-sectional, Community-based study.

Settings and Participants: Adults belonging to families of urban slum area of Multan nagar which also happens to be the field practice area of Department of Community Medicine, Subharti Medical College, Meerut.

Sample Size: 400 young people aged above 25years, 220 respondents were males and 180 were females.

Study Period: Feb 2011 to July 2011

Study Variables: A pre- designed, pre-tested, questionnaire was used after taking verbal consent. Questions consisted of age, sex, knowledge and awareness of diabetes i.e. whether ever heard of diabetes, causes, signs and symptoms, mode of diagnosis, complications, risk factors, mode of treatment, source of information regarding diabetes.

Statistical Analysis: Data was entered and analyzed in MS Excel. For Socio-economic status, Modified Kuppuswamy classification was used.

Results: 75% of the respondents had heard of diabetes. Half of the respondents were aware that it is a sugar disease. 35% of the respondents had the misconception that sugar (table sugar) is a risk factor for diabetes. 90% of the respondents were not having any knowledge of signs or symptoms of diabetes. Friends and relatives were the highest sources of information followed by doctors.

Conclusion: Knowledge and awareness among adults regarding diabetes was found to be low in urban slum population. Targeted approach and more intensified campaigns are needed. Community level awareness programmes have to be organized. Extra efforts to be put in health education.

Key Words: Diabetes, Knowledge, Awareness, Adult population

Introduction:

There is a major upsurge in the occurrence of non – communicable diseases among the adults population. Great efforts have been made to control infectious diseases, but of non – communicable diseases among the adults population have not received much attention. Diabetes mellitus have become a major global health problem.

Diabetes is an “iceberg” disease. Although increase in both the prevalence and incidence of type 2 diabetes have occurred globally, they have been especially dramatic in societies in economic transition, in newly industrialized countries and in developing countries.

Currently the number of cases of diabetes worldwide is estimated to be around 150 million. This number is predicted to double by 2025 (a prevalence rate of about 5.4 per cent), with the greatest number of cases being expected in China and India¹.

WHO projects that there will be a 42% increase from 51 million to 71 million in the developed countries and 170% increase from 84 million to 228 million in the developing countries. The countries with the largest number of people with diabetes are, and will be in the year 2025, India, China, and the US².

Epidemiological studies conducted in India, showed that not only the prevalence was high in urban India but it was also increasing³⁻⁵.

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A national survey of diabetes conducted in six major cities in India in year 2000 showed that the prevalence of diabetes in urban adults was 12.1%⁶. According to the WHO report, India heads the world with over 32 million diabetic patients and this number is projected to increase to 79.4 million by the year 2030⁷.

Besides significant mortality, diabetes related morbidities such as diabetic retinopathy, neuropathy and cardiovascular disease have also placed a heavy financial burden on family and society⁸. The aim of this study was to assess the level of knowledge and awareness regarding diabetes mellitus among adults of urban slum in Meerut.

Material and Methods:

A cross-sectional, community based study was conducted in Multan Nagar which also happens to be the field practice area of Department of Community Medicine, Subharti Medical College, Meerut. 400 adults of age above 20 years were selected by systematic random sampling by house to house visits. The duration of the study was six months from Feb 2011 to July 2011. A pre- designed, pre-tested questionnaire was used after taking verbal consent. Questions consisted of age, sex, knowledge and awareness of diabetes i.e. whether ever heard of diabetes, causes, signs and symptoms, mode of diagnosis, complications, risk factors, mode of treatment and source of information of diabetes. Data was entered and analyzed in MS Excel. For Socio-economic status, Modified Kuppuswamy classification was used⁹.

Results:

A total of 400 adults were interviewed, 60% were males and 40% were females (Table 1). Majority (60%) of the respondents were in the age group of ≤ 45 years. 85% of the respondents were Hindu followed by Muslim (12%) and others (3%). Almost half of the respondents i.e. 52% belong to socio-economic status of class IV and 40% were in the socio-economic status of class V. Table No 2 depicts, 75% of the respondents had at least heard of diabetes. 03% of the study population were known diabetics and 15% of the study population had a positive family history of diabetes.

50% aware respondents mentioned that it is a sugar disease. 35% of the aware respondents had the misconception that sugar (Table sugar) is a risk factor for diabetes and prohibiting its use will safeguard the individual from diabetes. Majority of the aware respondents considered obesity (30%) and positive family history of diabetes (28%) as risk factor for

diabetes. 90% of the aware respondents were not having any correct knowledge of signs or symptoms of diabetes. 35% of the respondents suggested that blood test was the diagnostic mode to detect diabetes whereas 30% of the respondents considered urine test as a diagnostic mode. Knowledge about Glucometer was nil. 25% of the respondents stated that diabetes cause serious effects on kidney, whereas 20% stated eye diseases and 12% stated neuropathy to be a complication of diabetes. 43% of the aware subjects had no knowledge of any of the complications of diabetes. 45% of the aware respondents suggested that oral medicines were the mode of treatment of diabetes whereas 20% of the aware subjects considered injections to be the mode of treatment.

Friends 30% and relatives 36% were the highest sources of information of diabetes. Doctors were the source of information in only 12% of the aware subjects. Contribution of diabetes camps in being the source of information for diabetes in the study population was nil in the present study.

Table 1: Socio-demographic profile of respondents

Category	Number N= 400	%
Sex		
Male	240	60
Female	160	40
Age Group (Years)		
≤ 45	241	60
46-64	111	28
≥ 65	48	12
Religion		
Hindu	340	85
Muslim	48	12
Others	12	03
Educational Status		
Illiterate	160	40
Up to high school	140	35
Upto Intermediate	70	17.5
Graduate and above	30	07.5
Socio- economic status		
Class I	00	00
Class II	08	02
Class III	24	06
Class IV	208	52
Class V	160	40

Table 2: Knowledge and awareness of respondents

Category	Number	%
Ever heard about diabetes		
Yes	300	75
No	100	25
History of diabetes	12	3
Family history of diabetes	60	15
Misconception about diabetes		
Sugar disease	200	50
Use of Table sugar	140	35
Don't know	60	15
Knowledge of Causes of diabetes		
Obesity	120	30
Family history	112	28
Don't know	168	42
Knowledge of diabetes Signs or symptoms		
Incorrect	40	10
Don't know	360	90
Knowledge of Mode Diagnosis		
Blood Test	140	35
Urine Test	120	30
Glucometer Test	00	00
Don't know	140	35
Knowledge of diabetes Complications		
Its effect on kidney	100	25
Its effect on eyes	80	20
Its effect on neuropathy	48	12
Don't know	172	43
Modes of Treatment		
Oral Medicine	180	45
Injections	80	20
Don't know	140	35
Sources of Information		
Friends	120	30
Relatives	144	36
Doctors	48	12
Diabetes camps	00	00
Don't know	88	22

Discussions:

The major finding in this study was the lack of awareness of diabetes among adults. 75% of the participants had heard of diabetes. A study conducted by Mohan D et al⁷ suggested that 75.5% of the participants of Chennai had at least heard about diabetes.

50% of the aware respondents mentioned that it is a sugar disease. 66% of the aware respondents had the misconception that sugar (Table sugar) is a risk factor for diabetes and prohibiting its use will safeguard the individual from diabetes. This awareness level is not very high, as considering the fact that the study has been done in an urban area and in present times when diabetes is so much talked about disease in modern time. Sugar is basically carbohydrate, and higher intake of sugar means more calorie intake and if less output, it leads to obesity, which is a risk factor for diabetes. But in this study it was observed that the respondents had no knowledge of carbohydrates and they only considered that sugar (table sugar) is a causative factor of diabetes and if one prohibits the use of table sugar then one will not suffer from diabetes.

Majority of the aware respondents considered obesity (30%) and positive family history of diabetes (28%) as risk factor for diabetes. A study conducted by Muninarayana C. et al¹⁰ suggested that 45% of the participants were aware of the risk factors for diabetes. When knowledge level is so low, the implementation of preventive methods like regular physical exercises will be further lower leading to poor lifestyle disease. As prevention of diabetes is primarily dependent on altering lifestyle and increasing levels of physical activity¹¹.

90% of the aware respondents were not having any correct knowledge of signs or symptoms of diabetes. Knowledge of signs and symptoms not only helps the individual to suspect the disease at the earliest in him but also in those who are in contact with him.

Blood test (35%) and urine test (30%) of the aware subjects were considered as diagnostic modes. Knowledge about Glucometer was nil. Having knowledge of modes of diagnosis helps the individual in having an in depth understanding of the disease.

About 42% of the respondents were unaware of any complications of diabetes. One fourth of the respondents were aware about the renal complications (25%) followed by eye complications (20%) and neuropathy (12%). Knowledge of complications and end result of diabetes helps the individual to be cautious about the

disease and promoting him to take on the preventive aspects more seriously. A large segment is in need of correct education about the aspect of diabetes as it is a very crucial aspect.

Friends (30%) and relatives (36%) were the highest sources of information of diabetes. This indicates the power of "word of mouth". Doctors accounted for providing information in only 12% of the aware subjects. Diabetes camps contribution in being the source of information was nil. Doctors and diabetes camps are more specific for contributing as source of information of diabetes. This study highlighted the fact that diabetes camps have not yet reached the slum areas. It may be because pharmaceutical companies, which target only the high paying consumer, set up most of the camps of diabetes and the underdeveloped segment is being neglected¹².

This study reveals that knowledge and awareness regarding diabetes in adults of urban slum in Meerut was poor, so community level awareness programme need to be launched to increase their awareness because diabetes have a heavy financial burden on family as well as on society¹³⁻¹⁴.

Limitations of the study:

This study has been carried out in an urban slum area of Meerut only. Moreover the urban non slum areas and rural area of Meerut district were not studied. The sample is not representative of the district as a whole.

Conclusion:

This study reveals that knowledge and awareness regarding diabetes in adults of urban slum in Meerut was very low. It presents a very dismal and scary picture of the future with respect to this dreaded disease. To create awareness about rampant health problems like diabetes in the community should be considered as a very important role by a treating physician. Mass media has also a social responsibility of making the community aware of this chronic but preventable disease. Diabetes camps should be organized regularly in urban slum and rural areas. Non-government organizations can also divert some attention towards diabetes and can bring remarkable improvements in the community. Targeted efforts which will reach the grassroot level is needed immediately to curb this menace. Targeted approach and more intensified mass campaigns are needed. Extra efforts to be put in IEC activities especially in urban slum areas as well as where the prevalence rates of diabetes have already begun to rise.

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