

Assessment of Awareness about Diabetes Mellitus among Adult Populace of Lahore: A Preventive Approach Required to Combat the Disease in Pakistan

RANA MUHAMMAD AKHTAR KHAN, TARIQ SAEED CH*, MAAZ AHMAD**, MUHAMMAD MAHMOOD ALAM PASHA**

ABSTRACT

Objectives: To explore the level of awareness about diabetes mellitus, its associated life style factors among adult populace of Lahore and to formulate the strategies to improve the awareness.

Design: A cross sectional study

Place and duration: Health camps at Dhobi Mandi Lahore 2007

Patients and methods: A total of one hundred participants were interviewed. The structured questionnaire was filled at the spot to obtain sociodemographic information after taking verbal informed consent. Height, weight, pulse, blood pressure were also recorded.

Results: A total of one hundred participants were interviewed. Overall frequency of diabetes mellitus in the study population was twenty five percent (25%). The prevalence of diabetes mellitus increased with increasing age and body mass index. Only thirty five percent (35%) could define Diabetes Mellitus and this awareness was significantly associated with gender male, educational level and urban residence. Lack of physical activity, card playing and televisionization was observed in sixty percent of participants while thirty three percent were overweight. Seventy percent (70%) were having meals and snacks outside home. activity.

Conclusion: High frequency of Diabetes Mellitus, obesity, lack of physical activity, unhealthy nutrition, and faulty dietary habits was observed in the study population. Gender male, education and urban residence showed significantly better knowledge regarding diabetes but scored more on risk assessment scale due to poor dietary habits and lack of physical activity. Emphasis on health education and use of electronic and print media is recommended to improve the public awareness about the risk factors and consequences of diabetes mellitus like stroke, heart attack, kidney failure etc.

Key words: Awareness, Diabetes Mellitus, Life style, Obesity, Risk factors,

INTRODUCTION

Diabetes mellitus often referred to simply as diabetes is a disease in which the body does not produce enough, or properly respond to, insulin, a hormone produced in the pancreas¹. In diabetes, the body either doesn't make enough insulin or can't use its own insulin as well as it should, or both^{2,3}.

Diabetes mellitus is a serious public health concern all over the world. In Pakistan diabetes is on rise and if proper intervention and preventive strategies were not adopted the epidemic of diabetes will prove fatal. This upcoming epidemic and projected increase in the prevalence of diabetes over the next two decades emphasizes the importance of implementing primary prevention, early detection and

impacting educational preventive program¹. The preventive programs targeted towards general population showed greater benefits rather than targeting only high risk and diseased population². Different studies have proved modifiable risk factors of type II diabetes includes; obesity and physical inactivity³⁻⁹. If we could detect and prevent these risk factors earlier, the onset of disease can be delayed and prevented. Knowledge about the disease plays a vital role in future development of disease and its early prevention and detection. Research studies have shown that wherever massive education regarding diabetes mellitus is provided to general population, it resulted in significant increase in knowledge about the disease¹⁰. Poor public awareness about diabetic symptoms is contributing to delayed detection of type II diabetes mellitus¹¹.

This study was designed to explore the knowledge about diabetes mellitus among adult people assess behavioral and environmental risk factors. In the past studies have been done to

Department of Community Medicine, * Department of Nephrology, Sharif Medical and Dental College Lahore.

**Department of Community Medicine, King Edward Medical University, Lahore

Correspondence to Dr. Rana Muhammad Akhtar Khan, E. Mail; ranakhtar@hotmail.com

assess the knowledge and practices regarding diabetes among diabetic patients only and not among the general population. Due to rapid increase in incidence of diabetes in Pakistan, it is required to target research and preventive strategies towards healthy population to combat the disease in future.

MATERIALS AND METHODS

A cross sectional study was conducted on those adult males who visited health camp at Dhobi Mandi Lahore in 2008. After taking verbal consent a structured questionnaire was filled at the spot. Information about family history of Diabetes Mellitus, knowledge about Diabetes Mellitus and history of smoking was obtained. Standard heights and weights were measured in meters and kilograms respectively and BMI was calculated. A BMI equal to or more than 25 was considered overweight while BMI equal to or more than 30 was considered obese, less than 18.5 was considered underweight and from 18.5 to 24.9 were taken as normal. Diabetes Mellitus was considered to be present if the patient was a known case of Diabetes Mellitus. Data were analyzed by using SPSS version 10.0. . Body mass index (BMI) was calculated by the standard formula and obesity was taken as BMI >25kg/m.² Percentages are given for categorical variables whereas mean and standard deviations for quantitative variables. Chi Square test of significance was used for qualitative and t-test for quantitative variables to assess the association.

RESULTS

A total of one hundred participants took part in the study. The mean age was 40 ± 12 years. Sixty percent (60 %) of the population was matriculation or more. Higher education was found to be significantly associated with the awareness of the Diabetes Mellitus. Seventy five percent (75 %) of the Diabetics were ≥ 40 years of age, Seventy percent (70 %) were having positive family history, previously known Diabetics were ten percent (10%) whereas newly diagnosed cases were twenty two percent (22 %) and twenty five percent (25%) were smokers. Lack of physical activity was reported in sixty percent (60 %) of the study population. Most common form of exercise was walking. Thirty percent (30 %) of the participants were overweight or obese. Diabetics were having higher BMI compared with Non diabetics. 40 % were able to define Diabetes Mellitus. There was a statistically significant association between ability to define Diabetes Mellitus and educational level and previous diagnosis. No significant association was seen between age and ability to define Diabetes Mellitus

The results are summarized in the following table.

Table showing Results;

Variable	value	Frequency	%age
Age	≥ 40	75	75
Education	≥ Matric	60	60
Urban	54	54	54
Rural	46	46	46
Family history	Positive	70	70
Previously known	Yes	10	10
Physical inactivity	Yes	60	60
BMI	≥ 25	30	30
Knowledge of diabetes	Yes	25	25
Smoking	Yes	25	25

DISCUSSION

This study shows that there are significant gaps in knowledge regarding diabetes awareness, its sign and symptoms, complications, healthy diet and exercise among non-diabetics, which is responsible for contributing in delayed presentation of diabetics especially when incidence of diseases is higher in a country like Pakistan. People lack knowledge about healthy diet and exercise. Risk assessment showed that more of non-diabetics were in low to high risk of developing diabetes mellitus. Similarly on BMI scale more people were found overweight and obese, 70% had family history of diabetes mellitus Type II. Family history is associated with the increased incidence of diabetes and similar findings have been reported by other studies conducted in Pakistan^{12,13}. Living healthy life and consuming healthy food is another important component in prevention of diabetes mellitus. Public education and awareness about beneficial effects of consuming a healthy diet is essential. Our study findings support the result of an Indian study that concept of healthy food consumption among people was not clear¹⁴. Knowing the facts about the disease and showing positive attitude and behavior plays significant role in occurrence and control of disease. It is concluded that health care professionals should be more proactive in disseminating health information about diabetes to the people¹⁰. There are virtually no epidemiological studies from Pakistan assessing the level of knowledge about diabetes on general populace. A study carried out among general population showed knowledge regarding diabetes was found grossly inadequate and suggested that massive diabetic education program was urgently required¹⁵. A study conducted in rural Northwest of Pakistan regarding knowledge of diabetes among patients showed that high proportion of males have better understanding of diabetic sign and symptoms and complication as compared to females and

gender was not significant when question about suitable diet was asked¹⁶. Knowing complications of diabetes is helpful in reduction of morbidity and health cost^{17,18}. In our study lack of knowledge was found about complications of diabetes.

Obesity is associated with type II diabetes mellitus, recent reports from India, Pakistan and other developing countries indicate increasing prevalence of obesity and associated risk factors in Urban population¹⁹. Body mass index (BMI) was calculated by the standard formula and obesity was taken as BMI >25kg/m² as suggested by the International Obesity task force.²⁰ Lower threshold of body mass index (BMI) was suggested for the population due to association of obesity and metabolic syndrome²¹.

In our study a significant number of people were found obese and overweight and people living in urban community and having more than ten years of schooling were found more obese as compared to villagers and illiterate people. Educational status found positively correlated with knowledge of diabetes in a study conducted at the Aga Khan University Hospital Karachi²². Our study report similar finding that educated people were more aware about the disease but as regards risk assessment scale, being male, living in urban communities and even educated were prone towards diabetes, possibly due to dietary habits and life style. People living in village areas consume whole meal rather than refined meal and walk more daily for hours. Hence their obesity and overweight problem is less as compared to people living in urban areas. However the people living in urban areas report use of cooking oil more as compared to pure ghee while villagers reported less cooking oil consumption and more ghee. Our study findings recommend adoption of healthy life style for reduction of risk of developing type-II diabetes mellitus and massive health education program on diabetes at the level of general public. More research studies in general population especially intervention studies are required so that health education interventions can be evaluated.

CONCLUSION

Our study concluded that proportion of non-diabetics coming to primary care centers were prone towards diabetes mellitus on risk assessment scale. Their knowledge was found lacking. However, males, educational status and urban residence came out significant variables having better knowledge. The proportion of individuals found at high risk and low risk needs further screening for diabetes and health education regarding diabetes mellitus is required in these areas.

Recommendations: Diabetes Mellitus can be controlled and prevented if population follows these steps:

- Maintain a healthy weight.
- Moderate physical activity on most days of the week.
- Follow a healthy eating plan.
- Stop smoking/drinking.
- Compliance with prescribed medication for hypertension
- Incorporation of fresh fruits and vegetables in the diet

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