



Assessment of general awareness of type 2 Diabetes mellitus in Pune urban population

Physiology

Shishir Joshi	Consultant Physician, Sanjivani Clinic, Pune
Pranita Ashok	Department of Physiology, Bharati Vidyapeeth Deemed University Medical College, Pune, Maharashtra, India,
Jayashree S Kharche	Department of Physiology, Bharati Vidyapeeth Deemed University Medical College, Pune, Maharashtra, India,
Gayatri Godbole	Department of Physiology, Bharati Vidyapeeth Deemed University Medical College, Pune, Maharashtra, India,
Pradip Borle	Dept of Statistics, B.J. Medical College, Pune
Savita M Vaidya	Department of Physiology, Bharati Vidyapeeth Deemed University Medical College, Pune, Maharashtra, India,

ABSTRACT

Background: Awareness of various aspects of Diabetes Mellitus (DM) is essential for the prevention, management and control of the disease. However, several studies have consistently shown that awareness of DM in the general population is low. None of these studies, however, was conducted in Pune urban area, even though the condition constitutes a major public health problem in the country. **Methodology:** In this study, we assessed the awareness of DM among diabetic patients attending the various health camps conducted in Pune urban area. We interviewed 500 subjects. We used a tool containing questions on patient's demographic characteristics and general awareness of various aspects of DM including causes, symptoms, and factors contributing to development of DM.

Results: Of the 500 participants, study showed that one third (25%) of study population was unaware of what is DM. Only 50% of the participants were having knowledge about symptoms of DM. 77 % participants were having knowledge of increasing prevalence of DM. 63.97 % reported mental stress, 61% reported obesity, 42.82% reported family history as factors contributing to diabetes mellitus.

Conclusion: In a nutshell, the study highlights that though most of the participants know about diabetes mellitus, they have poor knowledge about symptoms and contributing factors for diabetes mellitus.

KEYWORDS:

Diabetes mellitus awareness, Pune urban area

Introduction

Non-communicable diseases (NCDs) such as diabetes, obesity, cardiovascular disease, mental illness and cancer have already overtaken communicable diseases as the commonest cause of death in India, accounting for 53% of total deaths in 2005.¹ India leads the world in the number of people with diabetes (40.9 million) and this number is expected to rise to 69.9 million by 2025.² The prevalence of diabetes is predicted to double globally from 171 million in 2000 to 366 million in 2030 with a maximum increase in India.³ It is predicted that by 2030 diabetes mellitus may afflict up to 79.4 million individuals in India.^{3,4} India is currently facing an uncertain future in relation to the potential burden that diabetes may impose upon the country. Many influences affect the prevalence of disease throughout a country, and identification of those factors is necessary to facilitate change when facing health challenges.⁵

Studies suggest that public knowledge about diabetes is not adequate in comparison with the magnitude of the problem in India.^{6,7,8} Despite a growing diabetic population, extensive diabetes research and numerous diabetes centers, awareness of this disease is poor. It is important to know about the awareness levels of the condition in a population, as knowledge is a critical component in behavior change.⁹ If people have adequate knowledge, they are more likely to participate in prevention and control activities.

Although the importance of educational programs in the prevention and control of DM is well recognized, the outcome needs to be evaluated.^{10, 11} There are concerns whether these programs are achieving the desired goal of increasing awareness of DM in developing countries. Indeed, several studies have consistently shown that awareness of the DM in the general population seems to be low. Awareness of DM has been documented in many developing

countries. Very few studies have been done in Pune even though the condition constitutes a major public health problem in the country. So the current study was undertaken to assess awareness of type 2 Diabetes Mellitus in Pune urban population using a validated questionnaire.

Material & Methods: It was a cross-sectional study. Study was conducted in 500 participants as per sample size calculation. Subjects above 18 years willing to participate in the study were included. Nature of the study was explained to all the subjects & written consent was taken. All subjects were given a validated questionnaire. The study was conducted in Pune city and participants were randomly selected from various health camps in Pune urban area. We interviewed a total of 500 patients from October 2016 – February 2017. Briefly, the study was explained to all subjects attending the health camps during the study period by one of the researchers and two trained nurses. Consent was obtained from willing participants. The validated diabetes awareness questionnaire was administered to the study participants. The questionnaire was constructed in English and local language. The questionnaire contained a series of questions on participant's demographic characteristics and awareness of DM including general knowledge of DM, causes, complications, management and prevention. It was ensured that the questionnaire was duly filled and data entry was done. Data was entered in SPSS software version 10 for analysis. Statistical analysis was done by nonparametric test and percentage.

We calculated the percentage of responses about awareness of DM, which was defined as knowledge of the following aspects of DM: definition, causes, complications, management and prevention.

Results:**Table 1: Knowledge of DM by participants**

Parameters	No of cases	Percentage (n=500)	
What is DM	Yes	375	75
	No	125	25
Do you have DM	Yes	114	22.8
	No	281	56.2
	Don't Know	105	21
Knowledge of symptoms of DM	Yes	251	50.2
	No	249	49.8
If Yes, Symptom (n=251)	Appetite	20	7.97
	Weakness	115	45.82
	Giddiness	61	24.30
	Itching	3	1.19
	Pain	9	3.59
	Freq of Urination	24	9.56
	Breathlessness	5	1.99
	Tingling/ numbness	8	3.19
	Burning sensation	15	5.98
	Sweating	16	6.37
	Hungry	8	3.19
	Non wound healing	5	1.99
	Vertigo	3	1.19
	Weight loss	3	1.19
Increase in prevalence of DM	Yes	383	76.6
	No	117	23.4
Factors contribute to DM	Obesity	234	61.10
	Less physical activity	144	37.60
	Family history of diabetes	164	42.82
	Mental stress	245	63.97
	High blood pressure	9	2.35

Discussion:

This study was undertaken to evaluate the awareness of DM among subjects attending the health camps conducted in Pune urban area. Our study showed that one third (25%) of study population was unaware of what is DM. In one of the study by Muninarayana et al. who reported that 50% of diabetic patients in Tamaka Kolar (India) had no knowledge of diabetes.¹²

Present study showed that 50% of the participants were having knowledge about symptoms of DM. 46% of the participants reported weakness whereas 24% reported giddiness as symptoms of DM. Rest symptoms like itching, pain, frequency of urination, breathlessness, tingling/ numbness, burning sensation, sweating, hunger, non-wound healing, vertigo, weight loss, sleeplessness were reported by less than 10% subjects. Unless until knowledge of all symptoms of DM, subjects will not proceed for diagnosis and treatment.

J Kishore et al reported 87% urban population in Delhi were not aware of symptoms of DM.¹³

In the present study it was also observed that 77% participants were having knowledge of increasing prevalence of DM. In our study 63.97% reported Mental stress, 61% reported obesity, 42.82% reported family history, 37.6% reported as less physical activity and 2.35% reported high blood pressure as factors contributing diabetes mellitus. Surprisingly magnitude of population was less having knowledge about role of family history in causation of diabetes mellitus. Similarly, in a study by Hashmi et al., most patients were unaware that diabetes runs in the family.¹⁴ Few studies reported that, a significant proportion of participants felt that diabetes can be caused by high sugar intake or other factors such as hypertension and stress, a belief that can only be altered if these patients are provided with appropriate education regarding the causes of diabetes.^{13,14}

These finding seems to suggest that there is no proper diabetic health education and promotion at the Pune urban area.

Conclusion:

In a nutshell study highlights that though most of participants know about diabetes mellitus, they have poor knowledge about symptoms and contributing factors for diabetes mellitus.

Hence, need of an hour is to increase the awareness about diabetes mellitus in general population. This can be done by conducting awareness sessions in hospital as well as in the community by expertise in diabetes. Correct scientific knowledge will help in early diagnosis and hence prevention and treatment.

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