Survey on an awareness of Diabetes Mellitus

* Shiny Mistry, *Ankita Pachare, [1]Dr. Vilasrao Kadam
*Department of Pharmacology, Bharati Vidyapeeth's College of Pharmacy, CBD Belapur, Navi Mumbai
*Department of Pharmacology, Bharati Vidyapeeth's College of Pharmacy, CBD Belapur, Navi Mumbai
[1]Principal of Bharati Vidyapeeth's College of Pharmacy, CBD Belapur, Navi Mumbai

---

ABSTRACT
The perception of this disease will play a vital role in its prevention and control. Also lack of adherence towards the management leads to poor glycaemic control, thereby, increasing hazardous complications. The aim of the present study is to determine and compare the level of awareness regarding diabetes mellitus, its complications and management in male & female diabetic patients. This partial study was conducted on Type2DM patients visiting Diabetes OPD at HIMS. Demographic data and knowledge of participants on various aspects of DM was recorded using a structured and validated questionnaire. Descriptive statistics was used for data analysis. Out of 100 patients, overall awareness was found to be average in 56% of the patients with majority being good (41%) regarding knowledge of DM while poor (38% and 58%) in complications and self-care practices respectively. Only 28% of the patients were adherent to their antidiabetic medications. Awareness among patients was found to be average but majority of them were non-adherent to their medications.
KEYWORDS: Awareness, Type 2DM, Adherence, Diabetes Mellitus.

I. INTRODUCTION
Diabetes mellitus is a complex, long- term illness requiring continuous medical care with multiple risk reduction strategies beyond glycaemic control. On-going patient self-management, education and support are critical to preventing acute complications and reducing the risk of long-term complications. Notable evidence exists that supports a range of interventions to improve diabetes outcomes. Diabetes mellitus is associated with significant rates of morbidity and mortality resulting from micro and macro vascular complications. As a result of associated complications, diabetes increases the economic burdens both on Health departments and patient themselves in non-developed countries like India.

Diabetes is one of the most prevailing disorders worldwide, the prevalence for which was evaluated (globally), in 2013, 382 million people live with diabetes and this is expected to rise to 592 million by 2035[1]. According to International Diabetes Federation, currently 6.6 million people live with diabetes in India, and in 2025 the total number of people with diabetes is estimated to be 14.5 million. The self-care practices of individuals are influenced by their knowledge about diabetes; the more they know about their illness, more they would have self-management skills. Many research work published have shown that, in India the diabetic population don't have enough awareness of diabetes, the proper use of medications, life style modifications, dietary plans, myths associated with health issues[3]. Patient perception about diabetes, complications, medications adherence, diet plans and lifestyle modifications can establish patient specific goals, like effectiveness of medications and decrease in like hood of adverse events in all types of diabetes and in all age groups of diabetic population [6, 7]. The Indian Council of Medical Research (ICMR) conducted a study in four regions of India in which they found that only 43.2% of the overall study population had heard about a condition called diabetes. Another study found that 17% of their participants had poor knowledge and more than half believe it to be a transferable disease. Having complete knowledge about the disease is like a small investment for large benefit [10, 12]. Another major weapon in the management of diabetes is the Adherence to treatment. It has been indicated through various studies that despite the extensive therapy options available for various stages of type 2 diabetes, less than 50% of patients achieve the glycaemic goals recommended by the American Diabetes Association (ADA) [14].

The objective of this study was to determine the comparative level of awareness of male and female diabetic patients (irrespective of diabetes type), that to how much extent they know

about diabetes, associated complications, problems and treatment.

II. MATERIALS AND METHODS

This partial study was conducted in the Department of Pharmacology in collaboration with Institute of Medical Sciences (HIMS). All the diagnosed type 2 diabetic patients attending the diabetes OPD within the study period were recruited in the study after taking written informed consent. Ethical approval was taken from Institutional Ethics Committee before initiating the study. Patients with type 1 diabetes mellitus, patients on insulin and pregnant/lactating women were excluded. Once included, a structured and validated questionnaire form was filled up by the study subjects after being properly explained by the principal investigator and enough time was provided to each patient. Socio-demographic information (age, sex, occupation, residence, and education), family history of diabetes, history of alcohol and history of tobacco consumption were recorded. The questionnaire also contained a series of 13 questions on awareness of DM which were divided under three headings, namely knowledge of DM, knowledge regarding complications of DM and self-care practices and management of DM.

III. STATISTICAL ANALYSIS

Interpretation and analysis of the obtained data was carried out using software Microsoft Excel 2010.Descriptive statistics was used to present the data in terms of percentages, mean ± S.D. and bar charts. Association of the demographic characteristics (gender, literacy status and occupation) of the study subjects with the awareness and the adherence scores was analysed using chi square test with $p < 0.05$ taken as statistically significant.

IV. RESULTS

Total 100 diabetic patients were interviewed 73% (88) male and 22.5% (27) females. Their ages ranged between 35 to 65 years. About 65% of the respondents had previously received diabetes awareness as shown in Table 1. A total of 100 type 2 diabetes patients attending diabetes OPD within the study period were recruited in the study. The sociodemographic characteristics of the study subjects are given in Table 2. More than 50% of the patients were having positive family history for type 2 DM. Co-morbidities were found in more than 50% of the patients. Hypertension was the commonest followed by hypercholesterolemia. Percentage distribution of the study subjects according to awareness score is given in Table no. 3

Table 1: Frequency and Percentage of surveyed diabetic population (n=100)

	Frequency	Percentage
Age Distribution		46%
<35 years	55	
35-45 years	72	60%
>45 years	85	71%
Sex Distribution		
Male	88	73%
Female	27	22.5%
Diabetes Mellitus		
Type 1	46	38%
Type 2	62	52%
Family History	92	76%
Awareness	78	65%

Table 2: The Socio-demographic Characteristics of study subjects (N=100)

Sociodemographic characteristics	Subjects
Male/Female	88/27
Mean Age	58.84 ± 11.02
Education	22

High School	
Graduated	38
Occupation	36
Employed	
Self Employed	17
Retired	14
Co- Morbidities	56
Hypertension	
Cardiovascular	11
Addiction	25
Alcohol	
Smoke	26

Table 3: Percentage distribution of the study subjects according to awareness score

	Poor	Average	Good
Knowledge about DM	27	32	41
Complications	38	37	25
Self-Care Practices	58	28	14
Overall	28	56	16

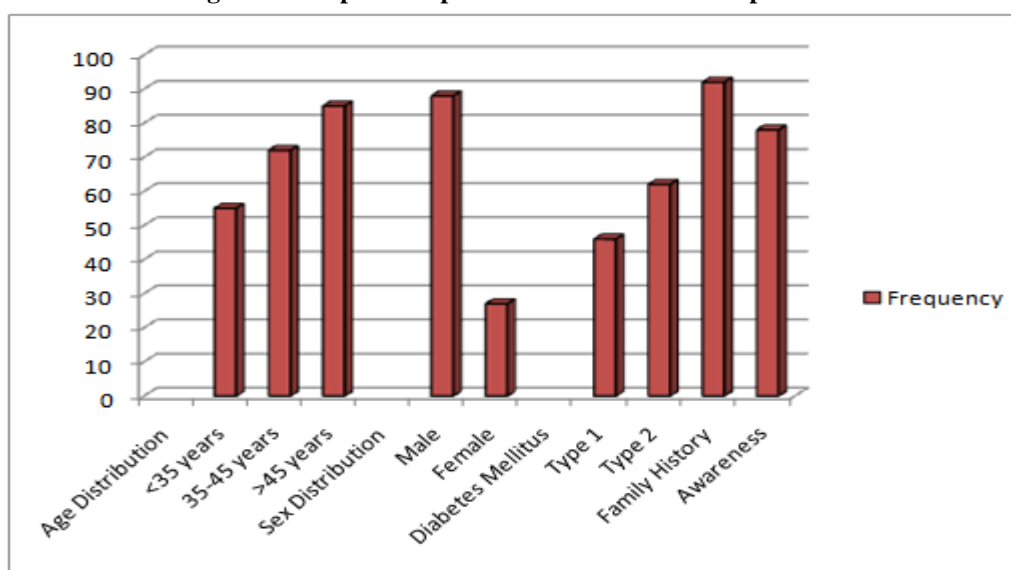**Figure 1: Graphical representation of Diabetic Population:**

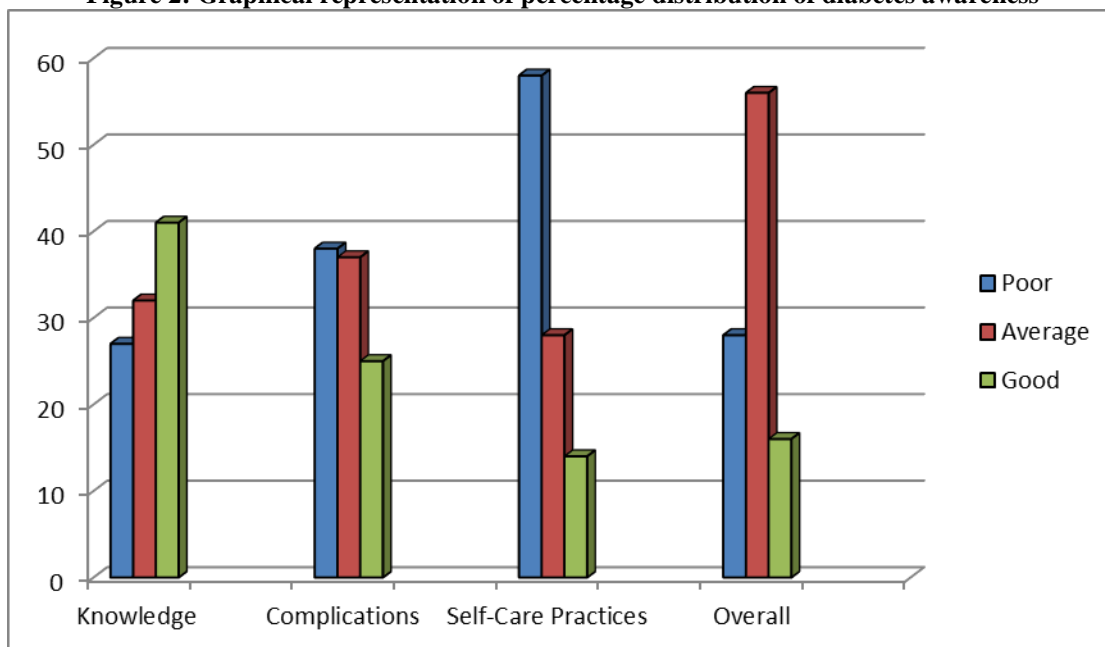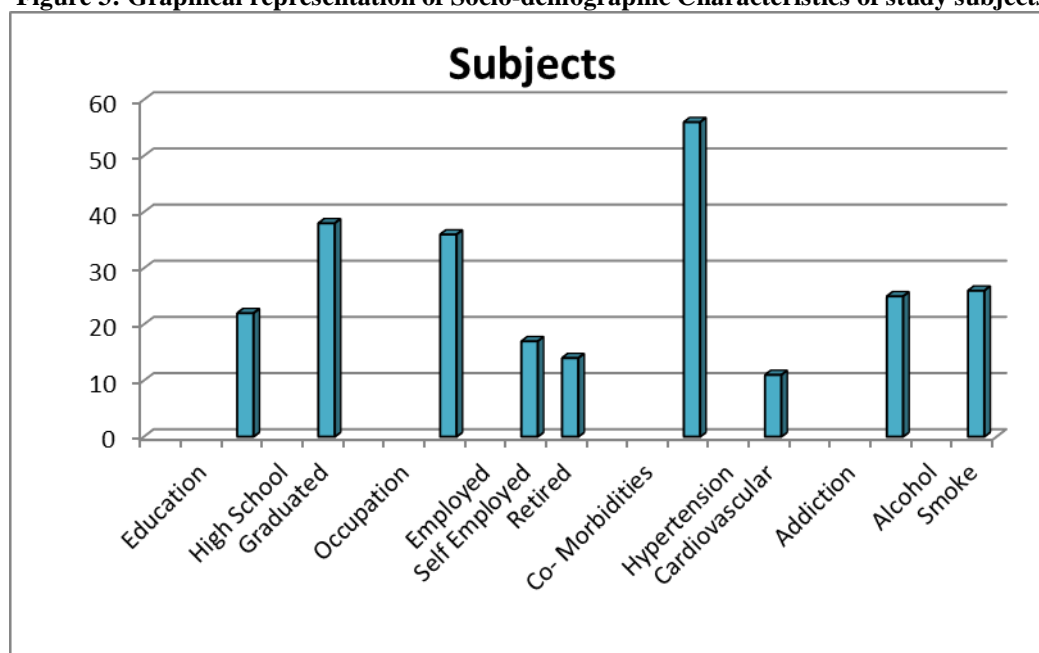**Figure 2: Graphical representation of percentage distribution of diabetes awareness**

Figure 3: Graphical representation of Socio-demographic Characteristics of study subjects

V. DISCUSSION

The data collected empirically shows that the level of awareness of patients about diabetes, its complications and management in the diabetic population. The main consequence of poor adherence to medications is decreased glycemic control, leading to the known complications of diabetes. Therefore, there is a need to improve adherence which might include better patient information, education and motivation and also reducing the treatment complexity. The shortcomings of this study include the limited pool of sample selection.

VI. CONCLUSION

Diabetes mellitus is a major health challenge both epidemiologically and economically and awareness of this condition among diabetics is low in many regions of India. The present study showed poor awareness regarding complications and self-care practices in majority of the patients. The overall level of awareness in both male and female diabetics was found low; and comparatively female patients have poorer awareness. There is a big space for raising the educational awareness about diabetes through formal, well organized approaches by healthcare professionals in hospitals, clinics and community based healthcare centres. Because the American Diabetes Association, clearly defined, the critical role of diabetes education in quality diabetes care; diabetes self-management education is a critical element of care for all people with diabetes and is necessary in order to improve patient outcomes.

REFERENCES

[1]. American Diabetes Association. Standards of medical care in diabetes-2014. Diabetes Care 2014;37:514-80.
[2]. Chinenye S, young E. Management of diabetes mellitus in developing countries. The relevance of post prandial hyperglycemia. Pak J Med Sci 2011;27:677-81.
[3]. International Diabetes Federation. IDF diabetes atlas 6th edition [Online]. 2013 [cited on 2013 Dec 21]. Available from URL: http://www.idf.org/diabetesatlas/6e/Update2013
[4]. Mahmood K, Akhtar ST, Haider I, Abbassi B, Jalib A, Salekeen SU. Dietary misconceptions in Pakistani diabetic patients. Pak J Med Sci 2011;27:128-32.
[5]. Jabbar A, Ebrahim MA, Mahmood K. Standard of knowledge about their disease among patients with diabetes in Karachi Pakistan. J Pak Med Assoc 2001;89:216-9.
[6]. Ali M, Khalid GH. Pirkani GS. Level of health education in patients with type 2 diabetes mellitus in Quetta. J Pak Med Assoc 1998;48:334-7.
[7]. Sabri AA, Qayyum MA, Saigol NU, Zafar K, Aslam F. Comparing knowledge of diabetes mellitus among rural and urban diabetics. Mcgill J Med 2007;10:87-9.
[8]. Ulvi OS, Chaudhery RY, Ali T, Alvi RA, Khan MF, Khan M, et al. Investigating the awareness level about diabetes mellitus and associated factors in Tarlai (rural Islamabad). J Pak Med Assoc 2009;59:798-801.
[9]. Grossman S. Management of type 2 diabetes mellitus in elderly, role of the pharmacist in a multidisciplinary health care team. J Multidiscip Healthc 2011;4:149-54.
[10]. Shera AS, Jawad F, Basit A. Diabetes related knowledge, attitude and practices of family physician in Pakistan. J Pak Med Assoc 2002;80:465-73.
[11]. Hughes GD, Puoane T, Bradley H. Ability to manage diabetes, community health worker knowledge, attitude and beliefs. J Endocrinol Metab Diabetes South Afr 2006;11:10-4.
[12]. Gupta RK, Shora TN, Jan R, et al. Knowledge, Attitude and Practices in Type 2 Diabetes Mellitus Patients in Rural Northern India. Indian J Comm Health. 2015; 27(3): 327-33.
[13]. Shah VN, Kamdar PK, Shah N. Assessing the knowledge, attitudes and practice of type 2 diabetes among patients of Saurashtra region, Gujarat. International Journal of Diabetes in Developing Countries.2009;29(3):118-22.
[14]. Beran D and YudkinJ. Diabetes care in sub Saharan Africa.TheLancet.2006;368:1689-95.
[15]. Vankudre AJ, Manasi S. Padhyegurjar H, et al. A study to assess awareness regarding Diabetes Mellitus and factors affecting it, in a tertiary care hospital in Kancheepurum District.2013;4(2):44-9.
[16]. Upadhyay DK, Palaian S, Shankar PR, Mishra P. Knowledge, attitude and practice about diabetes among diabetes patients in western Nepal. Rawal Med J. 2008; 33(1):8-11.
[17]. Sangra S, Nowreen N, Sachdev S. Knowledge, Attitude and Practice about type 2 Diabetes Mellitus in an adult population attending a Primary Health Centre in rural Jammu. IOSR Journal of Dental and Medical Sciences (IOSR-JDMS). 2016 April;15(4):PP 54-57.
[18]. Shobhana R1, Begum R, Snehalatha C, Vijay V, Ramachandran A. Patients' adherence to diabetes treatment. J.Assoc Physicians India. 1999 Dec;47(12):1173-5.