Awareness of Complications of Diabetes Mellitus among Diabetic patients

IKRAM UR RAHIM[1], MUHAMMAD AZHAR SHAH[2], KHUMAIR ASIF[3], *MUHAMMAD LATIF[4], MUTIULLAH KHAN[5], RIZWAN ZAFAR[6]*

[1,6]Professor of Medicine, Akhtar Saeed Medical and Dental College, Lahore.
[2,5]Associate Professor of Medicine, Akhtar Saeed Medical and Dental College, Lahore.
[3]Associate Professor of Surgery, Akhtar Saeed Medical and Dental College, Lahore
[4]Assistant Professor of Medicine, Akhtar Saeed Medical and Dental College, Lahore
Correspondence to Prof. Ikram ur Rahim, Email: ikrammy@yahoo.com, cell: 0333-4878392

ABSTRACT

Aim: To assess the awareness of complications of diabetes mellitus in diabetic patients in our population
Study design: Descriptive study
Place and duration of study: Patients of diabetes mellitus who came to out-patient department (0PD) of Akhtar Saeed Trust Hospital were included in the study and total duration of study was 3 months.
Methodology: A cross-sectional study on adults in Lahore,Pakistan in Akhtar Saeed Trust Hospital was conducted and patients were included after taking consent from patients. A structured questionnaire was used to assess the knowledge of diabetes and capillary blood screening tests were performed to detect the diabetes. Basic questions regarding awareness of diabetes and its complications were included in the questionnaire.
Results: Among diabetic population,83%had poor knowledge about fasting blood glucose level, 88 % about random blood glucose level and 80% about HBA1c. Moreover, the poor awareness about complications like peripheral vascular disease was 76%, peripheral neuropathy 61%,stroke 58%,nephropathy 53%,leg amputation 50% and eye complicationswas 41%.
Conclusion: Below average knowledge about normal diabetic control levels and its complications suggests us to launch a knowledge base campaign among diabetic people by doctors and diabetic educators.
Key words: Diabetes mellitus, diabetic complications.

INTRODUCTION

Diabetes mellitus is a metabolic syndrome characterized by increased level of glucose in the blood (hyperglycemia) resulting from defects in insulin secretion or insulin action or both, American Diabetes Association, 2009[1]. The common effects of uncontrolled diabetes over time cause many complications especially the nerves and blood vessels. In 2012, diabetes was the direct cause of 1.5 million deaths and high blood glucose was the cause of another 2.2 million deaths worldwide WHO, Geneva, 2016[2]. Diabetes Mellitus is now a leading cause of morbidity and mortality throughout the world; it is associated with high rates of hospitalization, blindness, renal failure and non-traumatic amputation. The World Health Organization (W.H.O.) has estimated that the global number of people with diabetes will be more than double over the next 25 years and the developing world would tolerate an increasingly larger burden of disease in that period[2]. According to the World Health Organization (WHO) report, India today heads the world with over 32 million diabetic patients and this number is projected to increase to 79.4 million by the year 2030[3]. Control of diabetes and prevention of its complications is associated with maintaining normal level of plasma glucose. This level is achieved by pharmacological approaches such as anti-diabetic drugs as well as non-pharmacological management like diabetic diet and exercise etc. But education is one of the key components in ensuring better treatment and control of diabetes. There is also evidence to

---

show that increasing knowledge regarding diabetes and its complications has significant benefits including increase in compliance to treatment, thereby decreasing the complications associated with diabetes[4,5]. This study is designed to know what is the knowledge of targeted blood glucose levels and diabetic complications in our diabetic people.

MATERIALS AND METHODS

After an informed consent from patients, data wascollected on a Pro forma specially designed in which basic biodata and brief history about patients were entered.Patient's knowledge about controlled target Fasting Blood Sugar level(90-125mg/dl), post-prandial blood sugar level(two hours after meal) (less than 180mg/dl), HB A1c level <7% and complications of diabetes like eye disease, nephropathy, stroke, peripheral vascular diseases, neuropathies and limb amputation were entered.Patients presented in Out Patient Department of Akhtar Saeed Trust Hospital Lahore.A total 200 patients irrespective of gender andage above35 years of type 2 diabetes were included in the study. Statistical analysis was performed with SPSS v 11. Determinants of knowledge on diabetes and diabetic complications were analyzedusing Chi-square test. P<0.05 was considered statistically significant.

RESULTS

A total of 200 patients were included in which malepatients were 44%and femalepatients 56%.This is shown in table 1

Table 1

Total no of patients	200
Male	88
Female	112

Patients' age distribution is demonstrated in table 2,where highest number of patients are in age group 35-45 years i.e. 34% and least number of patients are in age group 76 onwards i.e., 9%.

Table 2

Age	n	%age
35-45	68	34
46-55	52	26
56-65	40	20
66-75	30	15
76-Onward	18	9

In diabetic people, 83% did not know about normal target fasting blood glucose level,88% did not know about target post-prandial blood glucose level and 80% had no knowledge of target HBA1c level.This is shown in table 3.

Table 3

	Yes	No
Fasting blood glucose level	17%	83%
Post-prandial glucose level	12%	88%
HBA1C	20%	80%

Patients' knowledge about eye complications, renal complications, stroke, peripheral vascular diseases, peripheral neuropathies and leg amputation is shown in table 3,which shows the highest is knowledge about eye complications 59% and the lowest is the knowledge about peripheral vascular diseases 24%.This is shown in table 4.

Table 4

Diabetic complications	Yes	No
Eye complications	59%	41%
Renal complications	47%	53%
Stroke	42%	58%
Peripheral vascular diseases	24%	76%
Peripheral neuropathies	39%	61%
Leg amputation	50%	50%

DISCUSSION

In our study, female are 56% and male 44% with the highest number of diabetics were in age group 35-45 years which is 34% of total studied people. They are considered in young age group which is comparable with study in Tamaka, Kolar in India where a total of 311 adults were studied, (54%) were females and (46%) were males. Most of the surveyed population (60%) and diabetic patients (54.8%) are in the age group of 30-45 years, this shows Diabetes in young adults is common[6]. This is change in trend where type-2 diabetes is being diagnosed in younger age group.

In our study knowledge about targeted fasting blood glucose 17%.random blood glucose 12% and HBAIC is 20% which is very low among diabetic people. No such study is available to compare our data with this aspect. Clinicians should give proper understandings about desired levels of control to diabetics, so that they can try to achieve it.

In our study, the lowest knowledge is about peripheral vascular diseases 24%, while the highest is about eye complications 59%. While in a study conducted in Ireland knowledge about peripheral vascular diseases was 16.3% and eye complication was 61.2%, which is comparable while considering the fact about the literacy rate in Irish population and our country[8]. In a study conducted in our neighboring country India, 41% were unaware of health being affected by diabetes and only less than 30% knew about complications related to kidneys, eyes and nerves[9]. The poor awareness of diabetic complications shows that the majority of patients have not been educated about diabetes by their physicians. This may be due to several factors such as inappropriate ways of providing information and most importantly lack of time due to the huge patient loads and lack of appropriately trained support staff like educators.

CONCLUSION

Poor knowledge about targeted blood glucose levels and complications of diabetes in diabetic people emphasizes the need for more continuing medical education programme on diabetes for doctors and also for developing a cadre of diabetes educators in developing countries in order that better diabetes education is imparted to patients.

REFERENCE

1. American Diabetes Association. The American Diabetes Association (ADA) has been actively involved in the development and dissemination of diabetes care standards, guidelines, and related documents for many years. Introduction. Diabetes care. 2009 Jan;32:S1.
2. Global report on diabetes [Internet]. WHO. 2016 [cited 7 November 2016]. Available from: http://apps.who.int/iris/bitstream/10665/204871/1/9789241565257_eng.pdf
3. Mohan D, Raj D, Shanthirani CS, Datta M, Unwin NC, Kapur A, et al. Awareness and knowledge of diabetes in Chennai - The Chennai Urban rural Epidemiology study. J Assoc Physicians India. 2005;53:283–7. [PubMed]
4. Visser A, Snoek F. Perspectives on education and counseling for diabetes patients. Patient EducCouns. 2004;53:251–5.
5. Rani PK, Raman R, Subramani S, Perumal G, Kumaramanickavel G, Sharma T. Knowledge of diabetes and diabetic retinopathy among rural populations in India, and the influence of knowledge of diabetic retinopathy on attitude and practice. Rural Remote Health. 2008;8:838. [PubMed]
6. Muninarayana, G. Balachandra,[1] S. G. Hiremath, Krishna Iyengar, and N. S. Anil Prevalence and awareness regarding diabetes mellitus in rural Tamaka, Kolar .nt J Diabetes DevCtries. 2010 Jan-Mar; 30(1): 18–21.
7. Farzanasaleh,shirin j mumu et Knowledge and self-care practices regarding diabetes among newly diagnosed type 2 diabetics in Bangladesh: a cross-sectional study BMC Public Health201212:1112
8. O'Sullivan, E.P., Bhargava, A., O'Callaghan, M. et al. Awareness of diabetes complications in an Irish population.Ir J Med Sci (2009) 178: 401.
9. Shashank r Joshi, aK Das, VJ Vijay , V Mohan.challenges in Diabetes care in india : sheer numbers, lack of awareness and inadequate control © JAPI • VOL. 56 • JUNE 2008.443-450