Knowledge and Attitude Towards Diabetes among Rural and Urban Population of Nasik District of Maharashtra

Kapil Palekar[1], Sushil Ahire[2], Rohan Suhas Bhambar[3]

ABSTRACT

Introduction: Participation of patients is very crucial in the management of diabetes mellitus as medications alone are not enough to manage the disease without intervention of different non-pharmacological measures. Hence, the present study was undertaken to assess the knowledge and attitude towards diabetes mellitus among the diabetic patients of rural and urban area of Nasik district of Maharashtra.

Material and methods: A descriptive cross sectional questionnaire based survey was conducted among 200 diabetic patients, who visited the department of General Pathology for blood glucose level investigation. Data so obtained was analysed using SPSS version 16 and statistically analysis was carried out using Chi-square test with p value <0.05 considered as significant value.

Result: 10% subjects from urban and 3% from rural were in the age group of 25-35 years, 28% subjects from urban and 25% from rural were in the age group of 36-45 years, 30% subjects from urban and 32 from rural were in the age group of 46-55 years and 32% subjects from urban and 40 from rural were in the age group of >55 years. 54% of urban 16% of rural subjects were also diagnosed as hypertensive patients. 64% were going for morning walk and 48% were doing exercise among the urban population where as 53% were going for morning walk and 29% were doing exercise among rural population group.

Conclusion: The present study concluded that urban population was more conscious regarding restriction of sugar intake, performing glucose level monitoring and practicing exercises and morning walk as compare to rural population.

Key Words: Diabetes Mellitus, Awareness, Therapeutic treatment

INTRODUCTION

Diabetes is the one of most common chronic diseases throughout the world. International diabetes federation's report described that 382 million had diabetes in the year 2013 and it was estimated to reach 592 million in the year 2035.[1] In 2000, India (31.7 million) topped the world with the highest number of people with diabetes mellitus followed by China (20.8 million) with the United States (17.7 million) in second and third place respectively.[2] Diabetes mellitus is a major emerging clinical and public health problem. It is the leading cause of blindness, and of lower-limb amputations. Concerning mortality, adults with diabetes have rates of stroke and death from heart disease that are about 2 to 4 times higher than adults without diabetes.[3] Participation of patients is very crucial in the management of diabetes mellitus as medications alone are not enough to manage the disease without intervention of different non-pharmacological measures. Hence, the

present study was undertaken to assess the knowledge and attitude towards diabetes mellitus among the diabetic patients of rural and urban area of Nasik district of Maharashtra.

MATERIAL AND METHODS

A descriptive cross sectional questionnaire based survey was conducted on 200 diabetic patients (100 male and 100 female), who visited the department of General Pathology for blood glucose level investigation. Ethical Clearance was obtained from the institutional ethical committee. Patients were interviewed after informed consent was obtained. All the patients were divided into 2 groups, group A consisted of urban population and group B consisted of rural population. Patients with type I or II diabetics, aged ≥ 25 years being diagnosed for at least 6 months were included in the study. The structured questionnaire included patient demographic data along with details of family history of diabetes, sugar intake, addiction to tobacco, therapeutic treatment and practicing of exercise. Data so obtained was analysed using SPSS version 16 and statistically analysis was carried out using Chi-square test with p value <0.05 considered as significant value.

RESULTS

Demographic data comprised of total 200 individuals diagnosed with diabetes, 100 from urban (Group A) and 100 from rural (Group B) population with 50 male and 50 female in each group. 10% subjects from urban and 3% from rural were in the age group of 25-35 years, 28% subjects from urban and 25% from rural were in the age group of 36-45 years, 30% subjects from urban and 32% from rural were in the age group of 46-55 years and 32% subjects from urban and 40% from rural were in the age group of >55 years.
Among urban population, 10% subjects were educated till primary level, 22% till secondary and 68% subjects were edu-

[1]Assistant Professor, Department of Pathology, SMBT Institute of Medical Sciences & Research, Nandi Hills, Dhamangaon, Taluka lgatpur, Nasik, [2]Associate Professor, Department of Pathology, SMBT Institute of Medical Sciences & Research, Nandi Hills, Dhamangaon, Taluka Igatpuri, Nasik, [3]Senior Lecturer, Department of Oral and Maxillofacial Surgery MGV'S KBH Dental College and Hospital Nasik, India

Corresponding author: Dr. Kapil Palekar, Assistant Professor, Department of Pathology, SMBT Institute of Medical Sciences & Research, Nandi Hills, Dhamangaon, Taluka Igatpuri, Nasik, India.

Variable		Group A % (Urban Popultion)	Group B% (Rural Population)	P value
Age	25-35 year	10	3	0.0657
	36-45 year	28	25	
	46-55 year	30	32	
	>55 year	32	40	
Sex	Male	50	50	
	Female	50	50	
Education	Uneducated	-	34	0.042
	Primary	10	20	
	Secondary	22	30	
	Graduate and above	68	16	
Type of diabetes (diagnosis based)	Type I	5	7	0.098
	Type II	95	93	
Duration	Less than 1 year and more than 6 months	24	13	1.4623
	More than 1 year	76	87	
Family history	Yes	45	33	1.089
	No	55	67	
Hypertension	Present	54	16	0.0521
	Absent	46	84	
Sugar intake	Daily	3	16	0.0345
	Occasionally	83	52	
	Rare	14	32	
Glucose level monitoring	Once in a month	45	33	1.02
	Once in a week	36	17	
Therapeutic treatment	Yes	100	70	1.24
	No	-	30	
Morning walk	Yes	64	53	1.012
	No	36	47	
Practicing exercise	Yes	48	29	0.021
	No	52	71	

Table-1: Questionnaire and response of both groups

cated till graduation level or were above. Among rural population, 34% subjects were uneducated, 20% subjects were educated till primary level, 30% till secondary and 16% subjects were educated till graduation level or were above.

Among urban population, 5% subjects were diagnosed with type I diabetes and 95% subjects were diagnosed with type II diabetes; among them 24% subjects were suffering from diabetes from a period of less than 1 year and more than 6 months and 76% for a period of more than 1 year. Among rural population, 7% subjects were diagnosed with type I diabetes and 93% subjects were diagnosed with type II diabetes; among them 13% subjects were suffering from diabetes from a period of less than 1 year and more than 6 months and 87% for a period of more than 1 year. 45% of urban subjects and 33% of rural subjects had a family history of diabetes. 54% of

urban 16% of rural subjects were also diagnosed as hypertensive patients.

The present study found that 3% of studied urban and 16% of studied rural population had sugar intake on daily basis, 83% of urban and 52% rural had sugar intake occasionally and 14% urban and 32% of rural population group avoided sugar intake. 45% of urban and 33% of rural group monitored their sugar level once in a month and 36% urban and 17% of rural group monitored their sugar level once in a week. 100% of urban group patient were under therapeutic treatment where as 30% of rural population group was not under any therapeutic treatment for DM. 64% were going for morning walk and 48% were doing exercise among the urban population where as 53% were going for morning walk and 29% were doing exercise among rural population group.

DISCUSSION

The unprecedented economic development and rapid urbanization in Asian countries, particularly in India has led to a shift in health problems from communicable to non-communicable diseases. Of all the non-communicable diseases, diabetes and cardiovascular diseases lead the list. The prevalence of diabetes is rapidly rising all over the globe at a alarming rate over the past 30yrs, the status of diabetes has changed from being considered as a mild disorder of the elderly to one of the major causes of morbidity and mortality in type 2 diabetes.[4]

The present descriptive cross-sectional study showed increase of prevalence of Diabetes Mellitus with age. The demographic profile of enrolled patients showed maximum cases in age group >55 years age group followed by 46-55 years age group. Similar findings were found by Upadhyay DK et al[5] who also reported that greatest number of diabetic patients were in the age group of 51-60 years. Bani AI[6] also reported similar findings. Thus, increase in the prevalence of diabetes mellitus with age is expected and has been observed in various studies reported. Mohan V et al[7] conducted survey among urban popultoion of Chennai and reported the overall prevalence of diabetes was 12 percent in the population above the age of 20 year. Better economic conditions and modernization have produced changes in diet habits. Ramachandarn A[8] in a literature review reported that India has nearly 33 million diabetic subjects, which is briefly contributed by the urban population. The scenario is changing rapidly due to socioeconomic transition occurring in the rural areas also. Prediabetic conditions like impaired glucose tolerance and impaired fasting glucose are also on the rise, indicating the possibility of further rise in the prevalence of diabetes. Metabolic syndrome, which is a constellation of cardiovascular risk factors, of which hyperglycaemia and insulin resistance are components, is also widely prevalent. The present study found more cases of hypertension among diabetic patients of urban area as compare to rural area. Furthermore, the fast food culture which has overwhelmed cities and towns is also a major driver of the diabetes epidemic. The fast-foods that are fat and calorie rich are easily available in the numerous food joints. As a majority of the immigrants in Indian cities depend on these unhealthy 'junk' foods, this may be a major factor in the rising

352

International Journal of Contemporary Medical Research
Volume 3 | Issue 2 | February 2016   ISSN (Online): 2393-915X; (Print): 2454-7379

prevalence of diabetes and cardiovascular diseases. [7]

In the present study less than half of the study participants checked blood sugar levels at least once in a month. Rajasekharan D[9] reported that more than three-fourth of the study participants checked blood sugar levels at least once in 3 months. Regular monitoring of blood sugar levels is vital in the management of diabetes, as it helps in assessing the effectiveness of the ongoing treatment regimen of the patient. The present study compared various parameters among rural and urban population of Nasik area and revealed that urban population was more conscious regarding restriction of sugar intake, performing glucose level monitoring and practicing exercises and morning walk as compare to rural population. Primary prevention is the main aim at preventing diabetes from occurring in susceptible individuals or in general population. Regular physical activity is an important component of the prevention and management of type 2 diabetes mellitus.[10] O'dea K[11] conducted a study in Australian Aborigines with the rationale that temporarily reversing the urbanization process can improve all aspects of their carbohydrate and lipid metabolism that are linked to insulin resistance and concluded that the major metabolic abnormalities of type II diabetes were either greatly improved or completely normalized in the group of Aborigines by relatively short reversal of the urbanization process.

Pan XR et al[12] determined whether diet and exercise interventions in patients with impaired glucose tolerance may delay the development of noninsulin-dependent diabetes mellitus and the study found that both the measures, alone or together reduced the progression of the disease by 40% after 6 years.

The dietary management of diabetes mellitus is a complement of lifestyle management. It has a positive effect on long term health and quality of life. Dietary management aims at optimal metabolic control by establishing a balance between food intake, physical activity, and medication to avoid complications. In type 2 diabetes, the dietary objective is for improved glycemic and lipid levels and weight loss as appropriate.[13]

Thus, life style management seems to be the cornerstone of management of diabetes mellitus. It is acknowledged as being an important part for prevention of diabetes and cardiovascular disease.

Limitation of the present study was that it was conducted only among the outpatients and hence may not be generalizable to the overall diabetic population. Moreover, the study enrolled the patients only from one hospital. In the absence of an efficient non-communicable disease (NCD) surveillance system in our country, the only reliable method of obtaining disease estimates is to conduct field studies. Epidemiological studies are urgently needed in each region of India to have a baseline against which future trends in risk-factor levels can be assessed, and preventive strategies planned.[14]

CONCLUSION

In conclusion, this study revealed a low level of knowledge, attitude and practice among the diabetes patients. This suggests the need for awareness program for the patients so as to improve their knowledge regarding diabetes. Self-care practices are essential for prevention of the multitude of complications and better quality of life, more efforts should be put to educate the patients through existing facilities in both government and private healthcare facilities.

REFERENCES

1. International Diabetes Federation, IDF Diabetes Atlas 2013; 6th edn. [cited 2014 Mar 13]. Available from: http://www.idf.org/sites/default/files/EN_6E_Atlas_Full_0.pdf.
2. Wild S, Roglic G, Green A, Sicree R, King H. Global prevalence of diabetes-estimates for the year 2000 and projections for 2030. Diabetes Care. 2004;27:1047-53.
3. Soderberg S, Zimme P, Tuomilehto J, et al. (2005): Increasing prevalence of Type 2 diabetes mellitus in all ethnic groups in Mauritius. Diabet Med 22: 61-68.
4. Gupta M, Prabhu K, Parijatham BO, Kalaiselvi VS, Rajendran SM, Rose J. Prevalence of Diabetes Mellitus in South India: A Retro spective Analysis. Journal of Internation Medical Sciences Academy. 2012;25:239-40.
5. Upadhyay DK, Palaian S,Shankar PR, Mishra P Knowledge, Attitude and Practice about Diabetes among Diabetes Patients in Western Nepal Rawal Med J. 2008;33:8-11.
6. Bani AI. Prevalence, Knowledge, Attitude and Practices of Diabetes Mellitus among Jazan Population, Kingdom of Saudi Arabia (KSA) Journal of Diabetes Mellitus. 2015;5:115-122.
7. Mohan V, Deepa M, Deepa R, Shanthirani CS, Farooq S, Ganesan A, et al. Secular trends in the prevalence of diabetes and impaired glucose tolerance in urban south India: The Chennai Urban Rural Epidemiology Study (CURES-17) Diabetologia. 2006;49:1175-8.
8. Ramachandran A. Epidemiology of Diabetes in India. Three decades of research. J Assoc Physician India. 2005;53:34-8.
9. Rajasekharan D, Kulkarni V, Unnikrishnan B, Kumar N, Holla R, Thapar R. Self-Care Activities Among Patients with Diabetes Attending a Tertiary Care Hospital in Mangalore Karnataka, India. Annals of Medical and Health Sciences Research. 2015;5:59-64.
10. Bastaki S. Diabetes mellitus and its treatment. Int J Diabetes & Metabolism. 2005;13:111-34
11. Odea K. Marked improvement in carbohydrate and lipid metabolism in diabetic Australian Aborigines after temporary reversion to traditional lifestyle. Diabetes. 1984;33:596-603.
12. Pan XR, Li GW, Hu YH, Wang JX, Yang WY, An ZX, et al. Effects of diet and exercise in preventing NIDDM in people with impaired glucose tolerance. The Da Qing IGT and diabetes study. Diabetes care.1997;20:537-44.
13. Piero MN, Nzaro GM, Njagi JM. Diabetes mellitus – a devastating metabolic disorder. Asian Journal of Biomedical and Pharmaceutical Sciences. 2014;4:1-7.
14. Rao CR, Kamath VG, Shetty A, Kamath A. A study on the prevalence of type 2 diabetes in coastal Karnataka. International Journal of Diabetes in Developing Countries. 2010;30:80-85.