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Complications in type II diabetes mellitus patients

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Abstract

Background: Diabetes mellitus is a group of common metabolic disorders that share the phenotype of hyperglycemia. The present study was conducted to assess complications in type II DM patients.

Materials and Methods: 288 type II DM patients of both genders were subjected to fasting and random blood glucose level. Glycosylated hemoglobin level was also assessed. Complications of diabetes were recorded.

Results: Out of 288 diabetic patients, males were 188 and females were 100. 200 patients were vegetarian, 88 were non-vegetarian, 156 patients were smokers and 150 were alcoholic. 210 patients were obese. The difference was significant ($P < 0.05$). Common complications were hypertension in 56%, visual disturbance in 34%, neuropathy in 50%, foot ulceration in 65%, nephropathy in 12%, impotency in 10% and diabetic retinopathy in 7%. The difference was significant ($P < 0.05$).

Conclusion: Higher complication such as hypertension, visual disturbances, neuropathy, foot ulceration, nephropathy, impotency and diabetic retinopathy were seen in DM patients.

Keywords: Diabetes mellitus, diabetic retinopathy, Impotency

Introduction

Type 2 diabetes mellitus is one of the major chronic disease burdens with a prevalence of 422 million patients worldwide [1]. Type 2 diabetes is expected to be the seventh most common cause of death in the world by 2030, primarily due to its rapid rise in middle-income and low-income countries [1]. In addition, type 2 diabetes is a leading cause of severe morbidities and disabilities. Diabetes mellitus (DM) is a group of common metabolic disorders that share the phenotype of hyperglycemia, which are caused by a complex interaction of genetics and environmental factors [2].

The prevalence of diabetes is rapidly rising all over the world. It has now become the disease of morbidity and mortality affecting the youth and middle aged people [3]. Type 2 diabetes mellitus has higher prevalence rate all over the world which accounts for more than 90 percent of all diabetes cases., but number of type I diabetes mellitus cases is increasing excessively nowadays. The number of diagnosed diabetic patients is 61.3 million so far and hence also known as the diabetic capital of the world [4].

Diabetic complications associated with hyperglycaemia (HG) impair the metabolism of carbohydrates, fats, proteins and electrolytes, all of which can disrupt the vascular system. There are various factors such as obesity, genetic factor, excessive intake of food especially sugar and lack of exercise play important role in diabetes mellitus. Modern life style and changed diets with use of refined foods especially sugar and fat had led the increasing incidence of diabetes mellitus [5]. The present study was conducted to recorded complications in type II diabetes mellitus patients.

Materials and Methods

This study was conducted among 288 type II DM patients of both genders. All were informed regarding the study and written consent was obtained.

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Data of each patient such as name, age, sex, diet, smoking, alcoholism, and family history of the disease was taken. A through clinical examination was performed and fasting and random blood glucose level and glycosylated hemoglobin level was assessed. Complications of diabetes were recorded. Results were tabulated and subjected for statistical analysis. P value less than 0.05 was considered significant.

Results

Table 1: Distribution of patients

Total-288		
Gender	Male	Female
Number	188	100

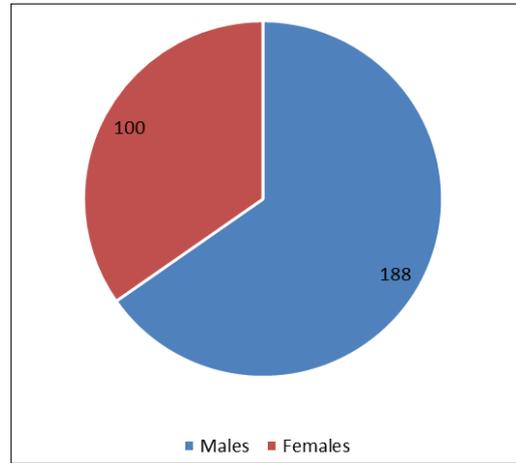


Fig 1: Distribution of patients

Table I, Figure I shows that out of 288 diabetic patients, males were 188 and females were 100.

Table 2: Risk factors in DM patients

Risk factors	Category	Total	P value
Diet	Vegetarian	200	0.05
	Non vegetarian	88	
Alcohol	User	150	0.02
	Non user	138	
Smoking	User	156	0.01
	Non user	132	
Obesity	Non obese	78	0.01
	Obese	210	

Table II, graph II shows that 200 patients were vegetarian, 88 were non-vegetarian, 156 patients were smokers and 150

were alcoholic. 210 patients were obese. The difference was significant ($P < 0.05$).

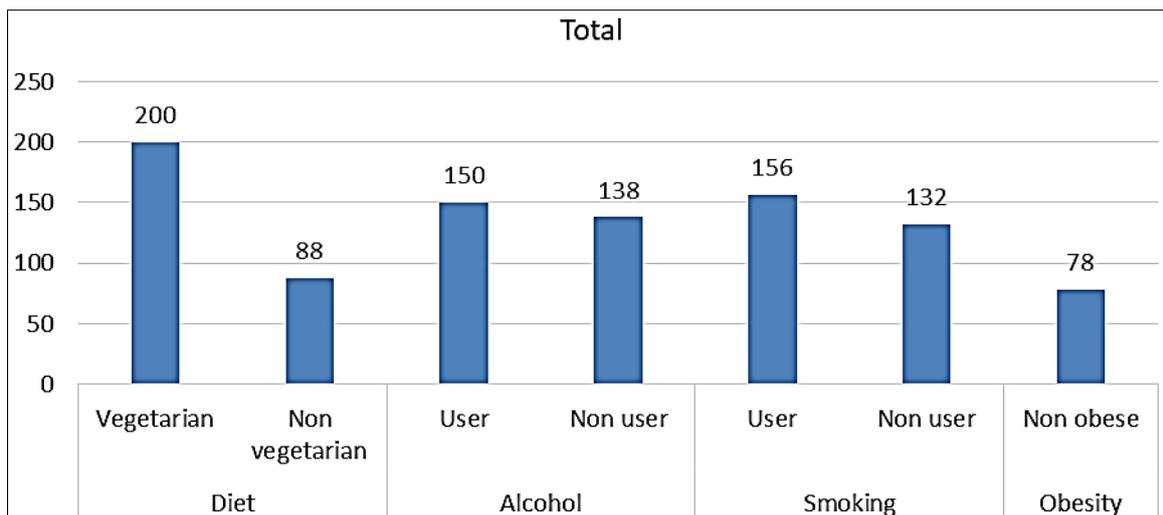


Fig 2: Risk factors in DM patients

Table 3: Complications in patients

Complications	Percentage	P value
Hypertension	56%	0.02
Visual disturbance	34%	
Neuropathy	50%	
Foot ulceration	65%	
Nephropathy	12%	
Impotency	10%	
Retinopathy	7%	

Table III shows that common complications were hypertension in 56%, visual disturbance in 34%, neuropathy in 50%, foot ulceration in 65%, nephropathy in 12%,

impotency in 10% and diabetic retinopathy in 7%. The difference was significant ($P < 0.05$).

Discussion

Diabetes Mellitus (DM) is a clinical syndrome characterized by hyperglycemia due to an absolute or relative deficiency of insulin. Insulin deficiency may arise in various ways such as destruction of β -cells of the pancreas, an organ responsible for the production of insulin. Insulin deficiency affects the metabolism of carbohydrates, proteins, fats, electrolytes and water leading to major organ function disorders throughout the body. India will contribute 21% of cases, which is very high for a single country [6]. The present

study was conducted to recorded complications in type II diabetes mellitus patients.

In this study, out of 288 diabetic patients, males were 188 and females were 100. Roaeid *et al.* [7] found that overall 129 (59.7%) of the patients were found to have been affected by one or more of the diabetic complications. Complications were identified mainly among type II diabetic patients. The age of patients, type of diabetes, and medication were strongly associated with the occurrence of diabetic complication but self-reported adherence, attitude, and knowledge level of patients and the family history were not associated with the presence of complication.

We found that 200 patients were vegetarian, 88 were non-vegetarian, 156 patients were smokers and 150 were alcoholic. 210 patients were obese. Insulin Dependent Diabetes Mellitus (IDDM) or Type 1 DM, is due to lack of insulin and has a peak incidence at 10-20 years. It is less common and estimated to account for 5 to 10% of all diagnosed cases of DM worldwide [8]. Risk factors for Type 1 DM are less well defined and include autoimmune, genetic and environmental factors. The standard care of Type 1 DM patients include multiple daily injections of insulin, monitoring of blood glucose through finger stick and digital glucometer. Targets for blood glucose should be less than 180 mg after meals for Type 1 diabetics. Non-Insulin Dependent Diabetes Mellitus (NIDDM) or Type 2 DM is due to presence of factors that oppose the action of insulin and it has a peak incidence at ages 50-70 years and accounts for almost 90 to 95% of all diabetic [9].

We found that common complications were hypertension in 56%, visual disturbance in 34%, neuropathy in 50%, foot ulceration in 65%, nephropathy in 12%, impotency in 10% and diabetic retinopathy in 7%. Diabetic nephropathy is associated with morphological impairment of the glomerular endothelial cell barrier and the glomerular basement membrane. This, in turn, leads to an elevation of protein filtration in urine, reflecting disturbed protein degradation in the diabetic patient. Oxidative stress progression in DM can induce gene expression of angiotensinogen, leading to renal function impairment [10].

Risk factors for Type 2 DM include increased age, physical inactivity, obesity, race and family history of the disease. The basic therapies for Type 2 DM include oral medications, and in severe cases the use of insulin, lifestyle modifications such as healthy eating, physical activity and regular monitoring of blood glucose [11]. Autonomic neuropathy may cause abnormal function of the digestive system. Diabetic patients with autonomic neuropathy may complain of symptoms such as early satiety, bloating, nausea, vomiting, abdominal pain and heartburn. Slowed stomach emptying, or gastroparesis, is usually detected in diabetic patients with prolonged HG. Diabetic enteropathy also leads to acid reflux disease, delayed bowel movement, constipation, diarrhoea, and increased rate of bacterial, viral and fungal gastrointestinal tract infections [12].

Conclusion

Author found that higher complication such as hypertension, visual disturbances, neuropathy, foot ulceration, nephropathy, impotency and diabetic retinopathy were seen in DM patients.

References

1. Colagiuri S, Borch-Johnsen K, Glumer C. There really

is an epidemic of Type 2 Diabetes. *Diabetologia* 2005;48:1459-1463.

2. Gul N. Knowledge, attitudes and practices of type 2 diabetic patients. *Journal of Ayub Medical College, Abbottabad* 2010, P128–131.
3. Eldarrat AH. Diabetic patients: their knowledge and perception of oral health. *Libyan Journal of Medicine* 2011, P1–5.
4. Anderson RM, Donnelly MB, Dedrick RF. Measuring the attitudes of patients towards diabetes and its treatment. *Patient Education and Counseling* 1990, P2-12.
5. Knowler WC, Bennett PH, Hamman RF, Miller M. Diabetes incidence and prevalence in Pima Indians: a 19-fold greater incidence than in Rochester, Minnesota. *Am J Epidemiol* 1978;108:497–505.
6. Unwin N, Whiting D, Roglic G. Social determinants of diabetes and challenges of prevention. *Lancet* 2010;375:2204–5.
7. Roaeid Kablan AA. Diabetes mortality and causes of death in Benghazi: A 5-year retrospective analysis of death certificates. *Eastern Mediterranean Health Journal* 2010, P65–66.
8. Liu Z, Fu C, Wang W, Xu B. Prevalence of chronic complications of type 2 diabetes mellitus in outpatients— A cross-sectional hospital based survey in urban China. *Health and Quality of Life Outcomes* 2010, P1-15.
9. Peter J, Riley CK, Layne B, Miller K, Walker L. Prevalence and risk factors associated with erectile dysfunction in diabetic men attending clinics in Kingston, Jamaica. *Journal of Diabetology* 2012, P2-13.
10. Raval A, Dhanaraj E, Bhansali A, Grover S, Tiwari P. Prevalence & determinants of depression in type 2 diabetes patients in a tertiary care centre,” *Indian Journal of Medical Research* 2012;2:1-11.
11. Stirban A, Rösen P, Tschoepe D. Complications of type 1 diabetes: New molecular findings. *Mount Sinai J Med* 2008;75:328-51.