Profile of diabetes mellitus in elderly of Chandigarh, India

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Abstract

Background: India being in a stage of demographic transition shows an increase in a non-communicable disease including diabetes. The diabetic trend is toward increase not only in urban population but also in rural population. But scanty literature is available on diabetes. The present study was conducted to know the complication profile and risk factors among the elderly diabetics.

Aims: To find out the prevalence of diabetes among elderly.
To detect the risk factors, complication and co-morbidities among elderly diabetics.

Designs: Cross-sectional study.

Material & Methods: The cross-sectional study was done in field practice area of urban health training center (UHTC) of the Department of Community Medicine of Govt. Medical College & Hospital sector 32, Chandigarh. A prestructured pretested proforma was used to get detailed information regarding demographic profile, chief complaints, co-morbidities, and treatment of the elderly.

Statistical Analysis: Percentage.

Results: Out of 74 patients 40 (54.1%) presented with some sign / symptom for which FBS was done and the patient was found diabetic. 18 (24.6%) were diagnosed on routine investigation and rest 16(21.6%) accidentally. The most common risk factor found in our study for diabetes was sedentary life style 35 (47.3%). Among the co-morbidities, 31 (41.9%) had hypertension while 21(28.1%) had CVD. Polyurea was found to be the most common presenting complaint.

Conclusion: The lifestyle changes are required to avoid diseases like diabetes and patients need continuos motivation to continue diabetic treatment and dietary restriction. There is a need to have a holistic and multidisciplinary approach for management of elderly diabetes.

INTRODUCTION

Globally diabetes mellitus affects 10-20% of the elderly in the age group 65-74 years & about 40% of elderly over the age of 80 years[1]. Owing to better medical facilities as well as increasing life expectancy the number of elderly are increasing at a faster rate than the whole population. By the year 2025, it is expected that majority of the elderly people worldwide will be residing in developing countries[2]. India is amidst a demographic transition with a trend towards an aging population[3]. In India by 2025, 150 million elderly people will be found[4].

Diabetes in elderly poses a special problem because there is high degree of co-morbidity, age related impairment of functional ability, increased chances of hypoglycemia.

The study was undertaken to analyze the clinical &laboratory profile of diabetes mellitus in the elderly. Though the burden of DM in the elderly is well established but there is dearth of studies in this context

METHODOLOGY

The cross-sectional study was done in field practice area of urban health training center (UHTC) of the deptt. of Community Medicine of Govt. Medical College & Hospital sector 32, chandigarh. The study population comprised of

elderly belonging to the catchment area of UHTC. A total of 273 elderly were registered in the geriatric OPD run by UHTC. Of the 273 elderly 74 were diagnosed to be suffering of DM as per WHO criteria.

A prestructured pretested proforma was used to get detailed information carrying out physical examination. Data was collected pertaining to chief complaints with which respondent presented how the disease was diagnosed, complications present or not, usage of complementary medicines if any, risk as well as prevalence of co-morbidity. The routine investigations Hemogram, urine c/e along with fasting blood sugar, post-prandial blood sugar, electrocardiography, blood urea, serum creatinine, serum electrolytes, lipid profile (cholesterol, triglycerides HDL cholesterol)

Data was compiled and analysed using percentages. The methodology comprised of interview, clinical examination & laboratory investigations.

RESULTS

Out of 273 elderly registered in the geriatric clinic run in UHTC- Sector 44, Chandigarh 74 (27.1%) were males and 31 (41.89%) were females. Majority of the patients i.e 50 (67.5%) out of which 28 (65.1%) males & 22 (70.9%) females were in age group of 61-70 years. 6 (13.9%) males &4 (12.9%) females were included in the age group of >80 years.

More than half of the patients i.e 40 (54.1%) presented with some sign / symptom for which FBS was done and the patient was found diabetic. 18 (24.6%) were diagnosed on routine investigation and rest 16 (21.6%) accidentally. The most common risk factor found in our study for diabetes was sedentary life style 35 (47.3%). Family history for diabetes was positive in 17 (22.9%). Among the comorbidities, 31 (41.9%) had hypertension while 21(28.1%) had CVD, depression was present in 8(10.8%) & CVA being the least common 4(5.4%).

Out of the total diabetic patients polyurea was found to be the most common presenting complaint. 23(31.1%) followed by polydipsia 19 (25.7%) and weight change 17(23%). 6(8.1%) patients presented with the complaint of pruritis, balanitis. Almost all the patients 69(93.2%) presented with one or the other known complications of diabetes. Maximum number of patients presented with complications of Peripheral neuropathy 34(45.9%). 20(27%) presented with the complication of retinopathy. Only 2(2.7%) patients each

presented with ketoacidosis and hypoglycemia. 9(12.9%) patients were in treatment for diabetic foot.

More than half of the patients, 53(71.6%) were on regular treatment for diabetes but 21(28.4%) were not on regular treatment. Most of the patients except 4(5.4%) were on oral hypoglycemia. 19(25.7%) patients were taking home some measures along with treatment to control diabetes while 4(5.4%) patients were using ISM for the treatment. All the 4 diabetic patients on ISM were those who were taking allopathic treatment irregularly. Only 30 (40.5%) patients followed diet restriction. 9(12.1%) patients were found to be regular smoker & 10(13.5%) regular drinker.

Figure 1

Table 1: Demographic Profile Of The Diabetic Patients

Variables	Sex		Total
Age	Male	Female	
61-70	28(65.1%)	22(70.9%)	50(67.5%)
71-80	9(20.9%)	5(16.1%)	14(18.9%)
>80	6(13.9%)	4(12.9%)	10(13.5%)

Figure 2

Table 2: Prevalent Risk Factors And Co-Morbidities Among Elderly Diabtics

Variables	Number(n=74)	%
How Diagnosed		
Accidental	16	21.6
Signs / Symptoms	40	54.1
Routine	18	24.3
Risk Factors		
Obesity	22	29.7
Sedentary life style	35	47.3
Family History	17	22.9
Co-morbidities		
Hypertension	31	41.9
CVD	21	28.1
CVA	4	5.4
Depression	8	10.8

Figure 3

Table 3: treatment profile of diabetic patients

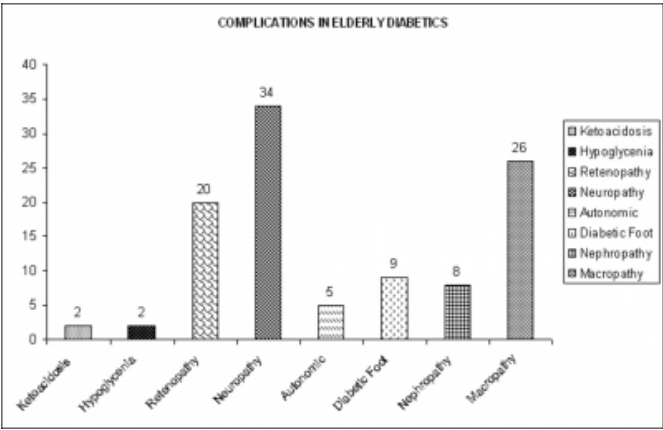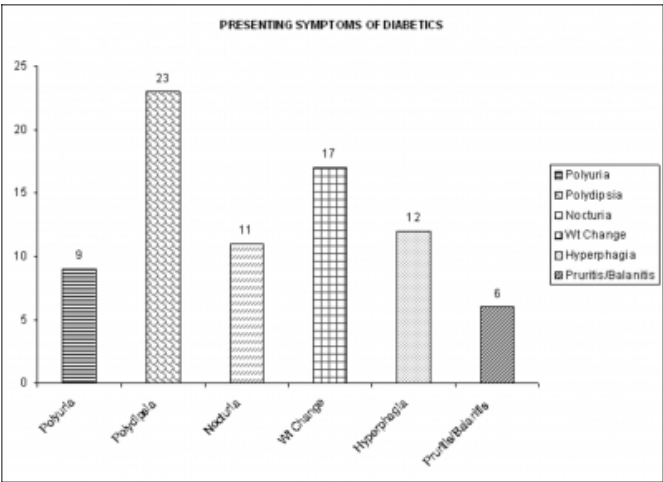| Variables	Number (n=74)	Percentage
Treatment Compliance		
Regular Treatment	53	72
Irregular Treatment	21	28
Treatment Mode		
Oral Hypoglycemic	70	94.6
Insulin	4	5.4
Additional Measures		
Homeopathic Treatment	4	5.4
Home Measures	19	25.7

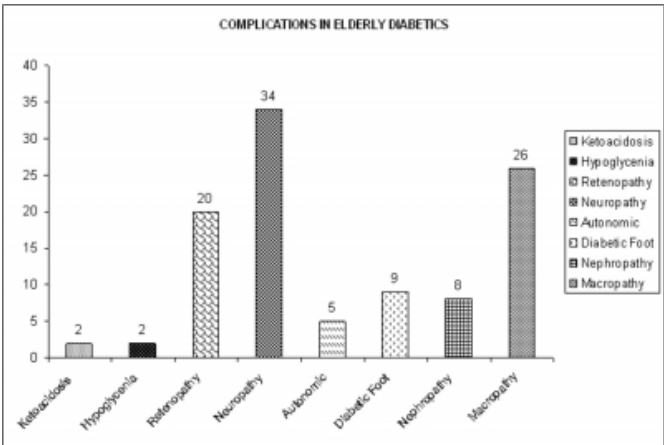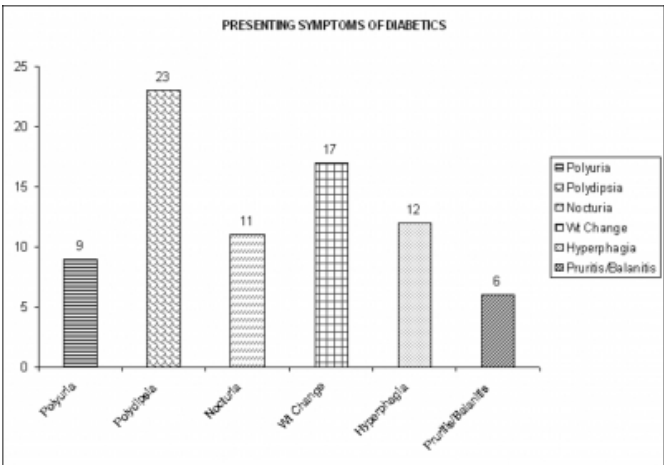**Figure 4**

Figure 5

Figure 6

Figure 7

DISCUSSION

Diabetes Mellitus in elderly forms a heterogeneous group of patients associated with high morbidity and mortality with certain specific complications. The present study was conducted to analyze clinical, laboratory and complication profile of elderly who were suffering from type II diabetes. Along with these associated illness and management were also studied.

Out of 273 patients registered in Geriatric OPD, the overall prevalence of diabetes was found to be 27.1% as compared to 12.1% in a study conducted in S India[5]. All the patients had type II diabetes. Majority of the diabetic patients 50(67.5%) were in the age group of 61-70yrs. 43(58%) of the registered diabetics were males and 42% were females. Prevalence of various risk factors for diabetes was seen in our study. Obesity was present in 22(29.7%) which is comparable to Framingham study (26.5%)[6] but higher than the study of Singh N P (18%)[7]. Positive family history for

diabetes was found in 17(27%) which is much higher than Ramachandran A (16.9%)[8]. Sedentary life style was present in 47.3% of the respondents in our study.

Most of the patients 40(54.1%) who were diagnosed as diabetics presented with one or the other classic sign/symptom which is comparable to the study of Singh N P where 50% of the patients presented with some symptom[7]. 18(24.3%) were diagnosed on routine check up as compared to 8% in Singh N P study[7]. Though it is seen that most of the patients are asymptomatic for a long time and usually present with one or the other complications. In our study 19(25.7%) presented with polydepsia and 23(31.1%) had poluuria. The other common symptoms with which the patient presented were weight change 17(23%) as cop, hyperphagia in 12(16.2%) and pruritis / balanitis in 6(8.1%).

Peripheral neuropathy was found to be the commonest complication in this study i.e 34(45.9%) as compared to 52% in Singh N P[7] and also Mayne N study[9]. Retinopathy was detected in 20(27%) which is very much comparable to Framingham eye study (29%)[10].

Among the comorbidities, hypertension was found to be commonest 31(41.9%). Followed by CVD 21(28.1%) which is less than as reported by Nathan et al (45%)[11]. Depression was seen in 8(10.8%) as compare to 11.5% found by P de Jogeand [12] 23.6% seen by Robert D Godney[13]. The reason for less prevalence of depression in our study may be because of the family support better in India and custom of joint families still persist here.

72% of diabetics in our study were taking treatment regularly. Most of the patients 47(64%) were taking oral hypoglycemics while 4(5.4%) were on insulin Among those on irregular treatment, 4(19%) were using ISM for treating diabetes. 19(25.6%) were taking some home measures for controlling diabetes. Only 31(41.7%) were adhering to the dietary control while 9(12.1%) continued to smoke and 10 (13.5%) drink regularly even after educating them against them. Reasons for irregular treatment in 28% were mainly failure to understand the importance of adhering to the treatment, lack of family support and expensive medicine.

CONCLUSION

The study highlights that diabetic patients need special care and a multidisciplinary approach for treatment. As diabetic treatment continuos for life so continuos motivation is require for the patients and dietary advice must be given time to time. Regular checkups is required to avoid or restrict co-morbidities attached to diabetes.

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