ORIGINAL ARTICLE

PREVALENCE OF DIABETES MELLITUS AMONG PATIENTS VISITING THE DEPARTMENT: A CLINICAL STUDY

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ABSTRACT:

Background: 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. This paper is done to determine the prevalence and risk factors of diabetes mellitus in adult patients. **Materials & Methods:** This study was conducted in department of general medicine in year 2015. We examined 5562 subjects visiting the department of general medicine for any ailment and we found 550 (10%) positive for diabetes mellitus. It included 302 females and 248 males. Patient information regarding age, sex, education, diet, smoking and alcoholism was taken. **Results:** Out of 550 diabetic patients, 302 were females and 248 males. 260 patients were in range of 20-39 years and 290 patients were above 40 years of age. Regarding marital status, 70% (440) were married, 15% (82) were unmarried and 5% were separated. 82% of patients were vegetarian. 95% patients were non smokers and 78% were non alcoholic. 75% were obese. Sikh comprised of 60%, hindu 35% and muslim 5%. The difference was statistical significant (P-0.02). Regarding distribution of patients, based on socio economic status. 358 (65%) comprised of low status, middle 137 (25%) and high status 55 (10%). The difference in socioeconomic status was significant (P-0.04). 12% were illiterate and 88% were literate. **Conclusion:** Author concluded that prevalence of diabetes mellitus is increasing day by days. It can be preventing by following normal exercise, maintaining body weight and healthy life style.

Key Words: Diabetes mellitus, diet, smoking, literate

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INTRODUCTION

Diabetes is a chronic disease characterized by higher level of blood glucose level that can be due to defects in insulin protection, insulin action or both. Diabetes mellitus has type I and type II variety.[1]

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. 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. This is the matter of worry.[2]

The number of diagnosed diabetic patients is 61.3 million so far and hence also known as the diabetic capital of the world. According to the International Diabetes Federation (IDF), at the end of 2030, the number of people with type 2 diabetes mellitus will increase to 552 million. India will contribute 21% of cases, which is very high for a single country.[3]

Modern life style and changed diets with use of refined foods especially sugar and fat had led the increasing incidence of diabetes mellitus. 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.[4]

The early identification is required in persons who are at risk and appropriate intervention should be implemented such as increase physical activity & changes in dietary habits. This can be useful in preventing development of

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new cases of diabetes and hence associated complication can be avoided.[5]

This paper is done to determine the prevalence and risk factors of diabetes mellitus in adult patients.

MATERIAL & METHODS

This study was conducted in department of general medicine in year 2015. We examined 5562 subjects visiting the department of general medicine for any ailment and we found 550 (10%) positive for diabetes mellitus. It included 302 females and 248 males.

Patient information regarding age, sex, education, occupation, diet, smoking, alcoholism, and family history of the disease was taken.

Patient blood sample was taken for evaluation of both fasting and ramdom blood sugar estimation.

The following factors were considered positive for diabetes.

1. Plasma glucose concentration >126/dl in case of fasting and >200mg/dl in case of random blood glucose level.
2. Polyuria, polydipsia and unexplained weight loss. Results were tabulated and subjected for correct inferences.

RESULTS

Out of 550 diabetic patients, 302 were females and 248 males. The difference was statistical non significant (P-0.6) (Table I).

Table II shows that 260 patients were in range of 20-39 years and 290 patients were above 40 years of age. Regarding marital status, 70% (440) were married, 15% (82) were unmarried and 5% were separated (Graph- I). Table III shows risk factor for the development of diabetes. 82% of patients were vegetarian. 95% patients were non smokers and 78% were non alcoholic. 75% were obese. Graph II shows that sikh comprised of 60%, hindu 35% and muslim 5%. The difference was statistical significant (P-0.02). Regarding distribution of patients, based on socio economic status. 358 (65%) comprised of low status, middle 137 (25%) and high status 55 (10%). The difference in socioeconomic status was significant (P-0.04) (Graph-III). Graph IV shows that 12% were illiterate and 88% were literate. The difference was statistical significant (P-0.05).

TABLE I: Distribution of patients based on gender

Total- 550			
Gender	Male	Female	P Value
Number	248	302	0.6

TABLE II: Distribution of patients based on age

Total- 550		
Age Range	20-39 Years	>40 Years
Number	260	290

TABLE III: Risk factors in patients

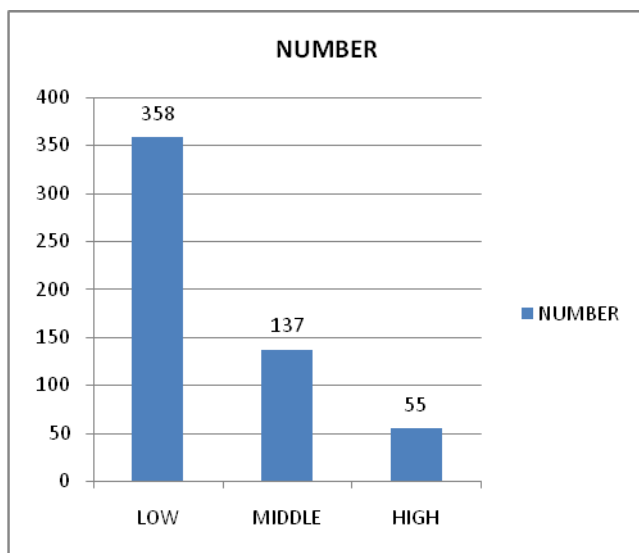| Risk Factors	Category	Total	P Value
Diet	Veg	451 (82%)	0.02
	Non Veg	99 (18%)	
Smoking	User	28 (5%)	0.01
	Non User	522 (95%)	
Alcohol	User	121 (22%)	0.03
	Non User	429 (78%)	
Obesity	Non Obese	138 (25%)	0.02
	Obese	412 (75%)	

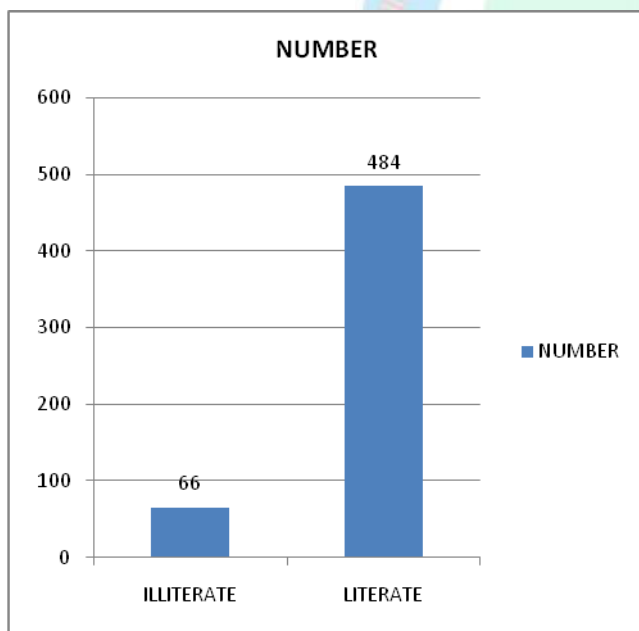**GRAPH I:** Distribution of patients based on marital status
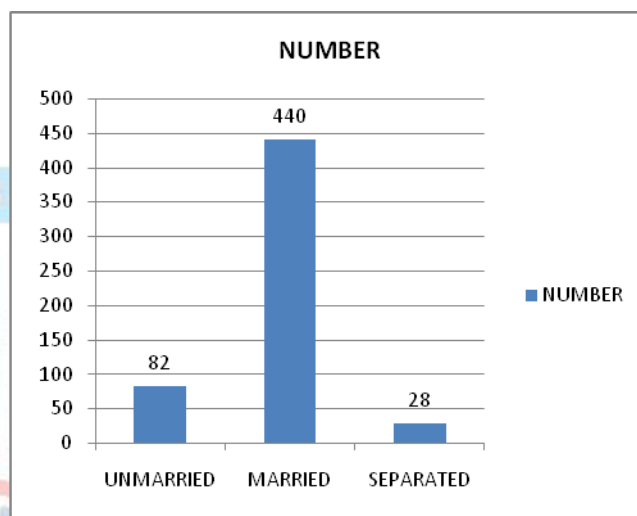
GRAPH II: Distribution of patients based on religion
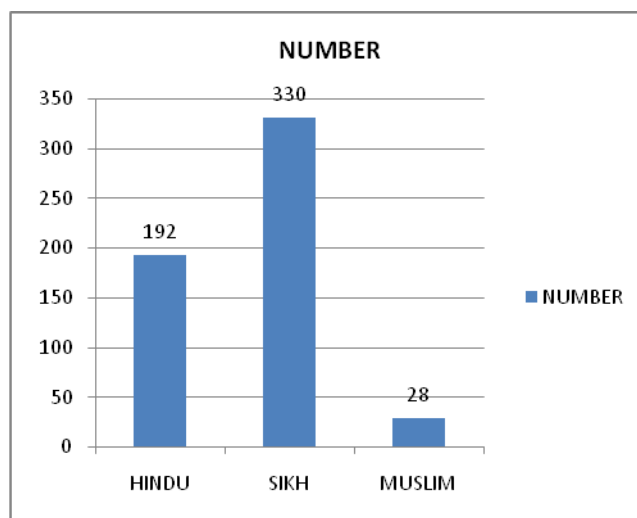
GRAPH III: Distribution of patients based on socio economic status

GRAPH IV: Distribution of patients based on education level

DISCUSSION

Diabetes Mellitus (DM) is a global epidemic in this millennium. Colagiuri et al[6] reported that the prevalence of Diabetes Mellitus is amongst low and middle-income countries, predominantly within the 40-59 years age group, although tendency is seen for onset at a younger age.

According to WHO, 80% of Diabetes deaths occur in low and middle income countries.

In this study, we recorded the prevalence of diabetes mellitus among patients visiting the department of general medicine. We screened 5562 patients, we found 550 (10%) positive for diabetes mellitus. It included 302 females and 248 males. Krentz et al[7] also recorded higher prevalence of disease in females.

We found that maximum cases were seen in age group >40 years of age. Mohan et al reported that prevalence of Diabetes Mellitus increased with increase in age until 70years. Bhatti et al[8] which reported that the prevalence of Diabetes Mellitus was 21.49%, 66.7% and 12.25% among higher, middle and lower SES group respectively. We also found maximum number of cases in low socioeconomic status group.

Maximum number of diabetes patients was married. Our results are in agreement with Bhatti et al. Sikh community showed higher prevalence as compared to hindu and muslim. Mohan V[9] found similar results. We found that our maximum number of patients were literate as come to illiterate. Results of our study are in agreement with the result of Ramachandra et al.[10]

We found that most of cases were seen in vegetarians as compared to non vegetarians. Liu et al[11] also found similar results. Smoking is commonly seen in patients with diabetes mellitus. In our study, most of our patients were non smokers. In contrast to this, Solberg L et al[12] in his study had linked smoking with increasing insulin resistance which later on induces full blown Diabetes Mellitus. There is association of diabetes and alcohol. In our study we found that non alchol users comprised on 78% as compared to alcohol users. However, Scott R[13] in his study found that there was association with diabetes mellitus and alcohol users.

In our study, 75% patients were obese. The Chennai urban population study reported that prevalence of Diabetes Mellitus in subjects with abdominal Obesity was high (27.8%) as compared to those without abdominal Obesity (9.0%).[14]
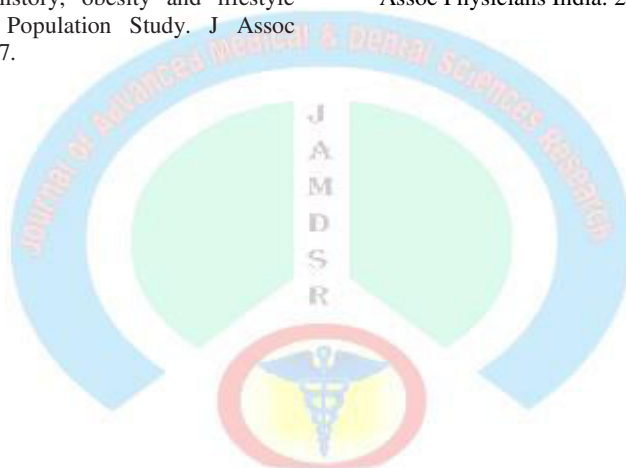
CONCLUSION

Author concluded that prevalence of diabetes mellitus is increasing day by days. It can be preventing by following normal exercise, maintaining body weight and healthy life style.

REFERENCES

1. Xu F, Ware RS, Tse LA, Wang Y, Hong Y, Chan EY et al. Joint associations of physical activity and hypertension with the development of Type 2 Diabetes among urban men and women of mainland China. PLOS One. 2014; 9: 88719.
2. Mengesha YA. Hypertension and related risk factors in Type 2 Diabetes Mellitus (DM) patients in Gaborone City Council (GCC) clinics, Gaborone,Botswana. African Health Sciences. 2007; 7(4).

3. Dowse GK. Incidence of NIDDM and the natural history of IGT in Pacific and Indian Ocean populations. Diabetes Res Clin Pract. 1996; 34:S 45–50.

4. 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 Dec; 108:497–505.

5. Unwin N, Whiting D, Roglic G. Social determinants of diabetes and challenges of prevention. Lancet. 2010; 375: 2204–5.

6. Colagiuri S, Borch-Johnsen K, Glumer C. There really is an epidemic of Type 2 Diabetes. Diabetologia. 2005; 48: 1459-1463.

7. KrentzAJ, Bailey JC.Type2Diabetes in practice. In practice series. 2001; 4.

8. Bhatti JS, Bhatti GK, Joshi A,Rai S, Mastana SS, Ralhan SK et al. Identification of risk factors for the high prevalence of T2DM & its complications in Punjabi population. North Indian Diabetes Study: A case control study. International Journal of Diabetes in Developed Country. 2007; 27:108-115.

9. Mohan V, Shantirani CS, Deepa R. Glucose intolerance (Diabetes and IGT) in a selected South Indian population with special reference to family history, obesity and lifestyle factors- the Chennai Urban Population Study. J Assoc Physicians India. 2003; 51:771-7.

10. Ramachandran A, Snehlata C, Kapur A, Vijay V, Mohan V, Das AK, Rao VP, Yajnik SC, Kumar PMK, Nair DJ. Diabetes epidemiology study group in India (DESI). High prevalence of Diabetes and impaired glucose tolerance in India- National Urban Diabetes Survey (NUDS). Diabetologia . 2001; 44: 1094-1101.

11. Liu S, Serdula M, Janket SJ et al. A prospective study of Fruits and Vegetables intake and the risk of T2DM inwomen. Diabetes Care. 2004; 27:2993-6.

12. Solberg L, Desai J, O'Connor P, and Bishop D, Devlin H. Diabetic patient who smoke: Are they different? Ann fam Med. 2004; 2:26-32.

13. Scott R A. The link between family history and risk of Type 2 Diabetes is not explained by anthropometric, lifestyle or genetic risk factors: the EPIC-InterAct study. Diabetologia. 2013;56:60–69.

14. Shashank R Joshi. Incidence data on diabetes from India. J Assoc Physicians India. 2008; 56:152-7.