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Epidemiological survey of diabetes mellitus and associated diseases in Coimbatore zone

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ABSTRACT

Diabetes mellitus is emerged as an important health problem in industrialized countries due to alcohol intake, tobacco smoking, spicy foods, life style changes and severe medical treatment and also affected some associated diseases such as vascular, cardiac, glomerolosis, albinuria, ulcer, IBS, zollinger elision syndrome, skin rashes, delayed wound healing, muscle weakness, hypertension, retinopathy, atherosclerotic, hyper lipidemic and fibrinolysis. Even though a range of modern day synthetic anti diabetic drugs are available for the treatment of diabetes mellitus but many of the drugs are completely can't cure the diabetes mellitus but it can reduce the diabetes mellitus incidence and not yet to be control the associated diseases. In Coimbatore zone, more peoples are affected diabetes mellitus and associated with other diseases. Above specified place less number of clinical literatures are available. The World Health Organization has proposed some indication about DM will be the 7th leading cause of death in 2030 and it will double between 2005 and 2030. In our study carried out, we were collected 500 patients and found Type-I (190) and Type-II (210) and others (110) patients. The epidemiological studies have been demonstrated that the prevalence of diabetes mellitus was indicated males (53.4%) when compared to females (46.6%). The age distribution results have been expressed that the adult age group of diabetes mellitus were more when compared to each other age group of patients. The married patients were affected for more diabetes mellitus (99%) when compared to unmarried statistics. The diabetes mellitus coordinated diseases report has been suggested that the renal failure (13%) patients were very less percentage in Coimbatore area when compared to hypertension (54%), inflammatory disease (15%), asthma (10%) and cardiovascular disease. Finally physician drug prescriptions have been indicated that the diabetes mellitus coordinated renal failure for γ-peroxisome proliferator-activated receptors (PPARs) agonist drugs with the combination of adrenergic receptor blocking agents, calcium channel blocker and thiazide diuretics. The hypertension coordinated diabetes mellitus Patient prescriptions have been expressed for beta blocker in combination with ACE inhibitors, thiazide diuretics and alpha glycosidase inhibitors. On study result revealed that the doctor and pharmacist became high status in this world and which will be useful for reduce the diabetes prevalence on 2030 and improving the health of the communities, which they lived.

Key words: Hypertension**,** Diabetes Mellitus and Renal failure.

INTRODUCTION

Diabetes Mellitus (DM) is a multifactorial metabolic disorder characterized by hyperglycemia, glycosuria, hyperlipidemia, negative nitrogen balance and sometimes ketonaemia[1]. Several pathogenic processes are involved in the development of DM due to autoimmune destruction of the β-cells of the pancreas with consequent insulin deficiency to abnormalities that result in resistance to insulin action. The abnormalities of carbohydrate, fat, and protein metabolism in DM patients due to deficient action of insulin on target tissues.[2] The literatures indicated that the 3.4 million peoples were died from consequences of high fasting blood sugar during 2004[3]. There are 347 million peoples are affected DM[4]. The death rate by diabetes mellitus is more in undeveloped countries about 80%

of DM and also death occurs in low and middle income countries[5]. The World Health Organization (WHO) has proposed some indication about DM, 7th leading cause of death in 2030 and it will double between2005 and 2030[6]. The several ongoing research for prevent and delay the onset of DM, but not yet to be cure the disease reported in synthetic anti diabetic medicines and medicinal plant[7]. FDA categorizes a serious adverse event as one, which the patient outcome is death, life threatening, hospitalization, disability and congenital anomaly or required intervention to prevent permanent impairment of damage[8]. The formal therapeutic trials are conducted in carefully controlled conditions in highly selected and limited number of patients. So that, the exact safety profile of the drug in real life situation is not known. The children, pregnant women, and elderly are not included in clinical trials for ethical reasons[9&10]. Therefore, the safety of the drug in these cases new entity not yet to be release. Based on the above reasons, present study is attempted to reduce the diabetes mellitus prevalence and improve the health care system.

MATERIALS AND METHODS[11-19]

1. Subjects and setting

This study was carried out various multi specialty hospitals in Coimbatore. The data were collected from inpatients and outpatients of DM.

2. Sample Size

In our study 500 DM patients were used, which includes visited or admitted in the Hospital.

3. Study design

The Cohort study used to observes DM patients for over the period of three years and outcome was recorded.

4. Study Criteria

Inclusion

1. Patient above 18 years and below 80 years.
2. Patient with DM and with other Co-morbidities.
3. Data to be collected In-Patient and Out Patient of DM.
4. Patient able to read and write the consent form.

Exclusion

1. Patient below 18 years and above 80 years.
2. Patients are not visited diabetology department.
3. Other disease and disorder data not collected.
4. Patient who unable to read and write the consent form.

5. Study materials

Patient data collection Form

As per standard guidelines, Patient data collection Form was prepared and got approval from diabetologist for collected patient data and Pharmaceutical care issues. The form which contain demographic data like age, sex, social history, family history, current treatment regimen, change of prescription drugs and current status of blood glucose level.

RESULTS AND DISCUSSION

Demographical Parameters

Table No: 1, Prevalence of Diabetes mellitus and Associated diseases

S.No	Disease	Type-I		Type-II		Others	
		Nos	%	Nos	%	Nos	%
1	Total.No.Patients	190	38	210	42	100	20
2	Single	90	37.5	100	41.7	50	20.8
3	Associated	90	37.7	99	41.4	50	20.9
4	Severe Diabetes Mellitus	10	47.6	11	52.4	0	0

Fig No: 1, Number of Patients

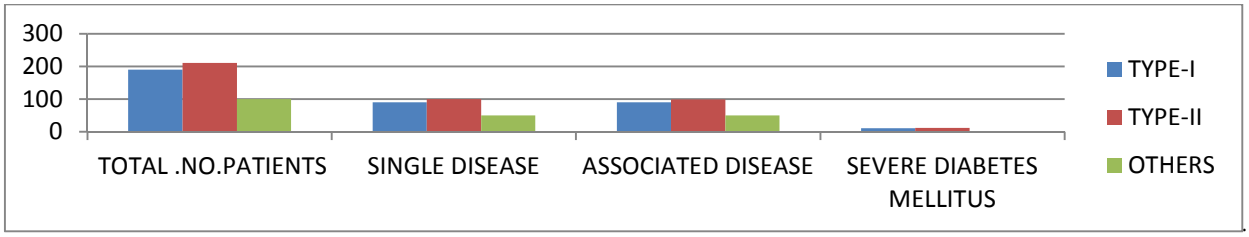


Fig No:2, % of Patients

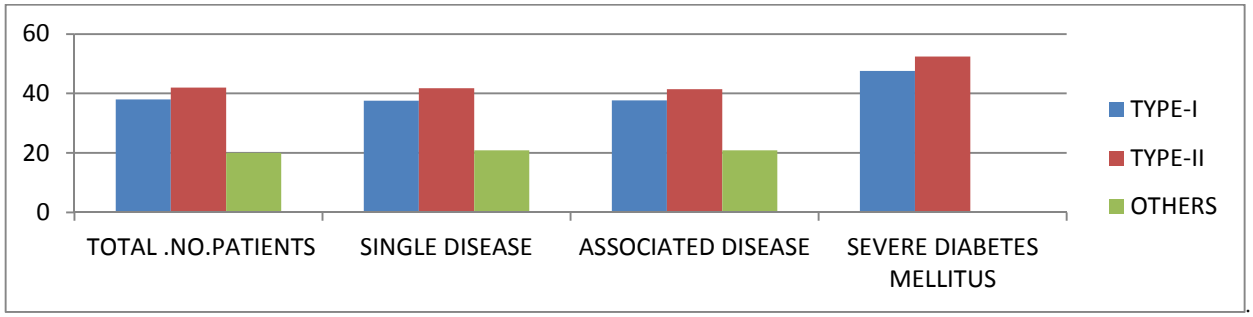


Table No: 2, Clinical Condition

S.No	Disease	Glucose level(mg/dl)
1	Mild Glucose level with diabetes mellitus	134.6 ± 2.73
2	Type-I	197.2 ± 5.47***
3	Type-II	288 ± 9.58***

Fig No:3, PATIENTS GLUCOSE LEVEL

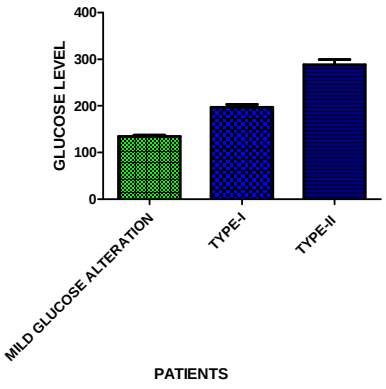


Table No: 3, Age

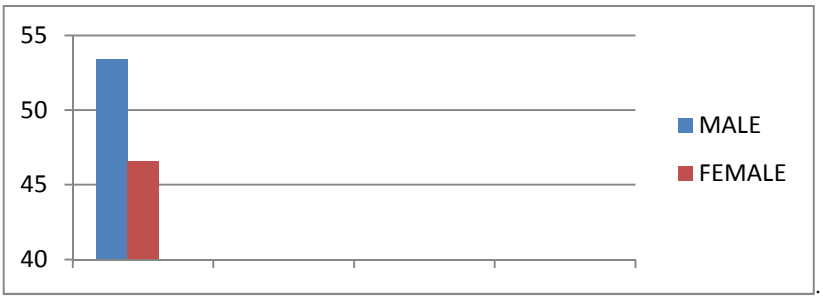
S.No	Age Yrs	% of DM Patients
1	20-40	11
2	40-60	22
3	60-80	67

Fig No: 4, Age groups of DM represented in years

Table No: 4, Sex

S.No	Sex	% of DM Patients
1	Male	53.4
2	Female	46.6

Fig No: 5, Sex difference in DM



Food Habit

S.No	Food Habit	% of DM Patients
1	Veg	20.8
2	Nonveg	79.2

Fig No: 6, DM Patients Food Habit

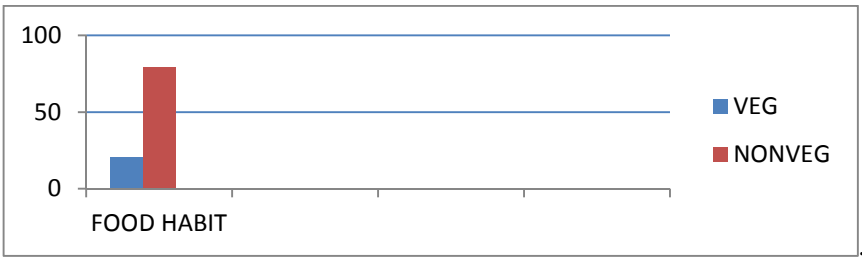


Table No: 5, Occupation

S.No	Occupation	% of DM Patients
1	Business	45.4
2	Professional	36
3	Cooly	18.6

Fig No: 7, DM Patients Occupation represented % Wise

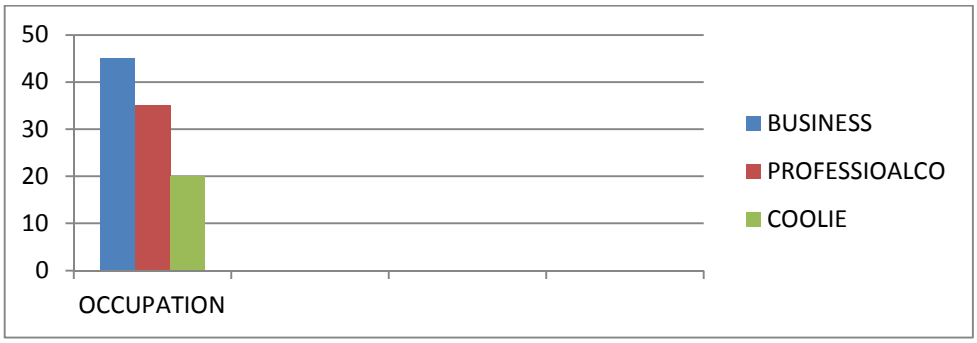


Table No: 6, Family Medication History

S.No	Family medication history	% of DM Patients
1	Type-I	58.4
2	Type-II	21.8
3	Others	19.8

Fig No: 8, DM Patients Family Medication History

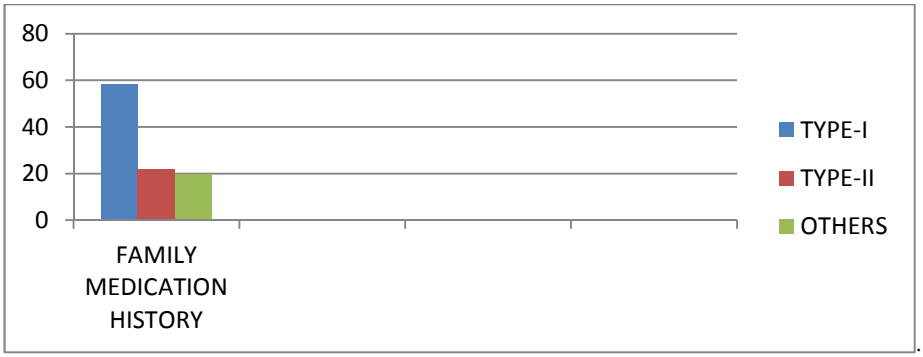


Table No: 7, Body Weight (Kgs)

Body Weight (Kgs)	40-60	60-80	80-100
% Wise DM Patients	11.8	32.2	56

Fig No: 9, Body Weight was represented in Kgs

The epidemiological evaluation study has expressed that the (Table No:1& Fig No:1&2) diabetes mellitus without associated diseases 240 Numbers (89.2%), which include type-I and type-II and except others 100 Numbers (20.8%) were more when compared with associated disease and severe diabetic mellitus patients in Coimbatore zone. The Table No:2 & Fig No:3 has been indicated measured glucose levels help to segregate the diabetes mellitus Patients. The old age diabetes mellitus patients (60-80Yrs) (67%) were available in the Coimbatore zone when compared to each other age group of patients (Table No:3 & Fig No:4). The survey result has indicated (Table No:4 & Fig No:5) male patients (53.4%) more comparatively female 46.6%. As per the survey results has been expressed that the Table No:6 & Fig No:7, more % of nonvegitarians affected in diabetes mellitus (79.2%) when compared with vegetarian. The business peoples were prominently affected diabetes mellitus (45.4%), professional workers (36%) when compared with cooly (18.5%)(Table No:7 & Fig No:8). The obesity was important factor for diabetes mellitus and coordinated disease, which indicated Table No:7& FigNo:9, 80-100 Kgs of diabetes mellitus Patients (56%) were more when compared to each other range of body weight. The diabetes mellitus coordinated diseases report has been suggested that the renal failure (13%) patients were very less percentage in Coimbatore area when compared to hypertension (54%), inflammatory disease (15%), asthma (10%) and cardiovascular disease (18%).

Other parameters

The diabetes mellitus coordinated diseases report has been suggested that the renal failure (13%) patients were very less percentage in Coimbatore area when compared to hypertension (54%), inflammatory disease (15%), asthma (10%) and cardiovascular disease. Finally physician drug prescriptions have been indicated that the diabetes mellitus coordinated renal failure for γ- peroxisome proliferator-activated receptors (PPARs) agonist drugs with the combination of adrenergic receptor blocking agents, calcium channel blocker and thiazide diuretics. The hypertension coordinated diabetes mellitus Patient prescriptions have been expressed for beta blocker in combination with ACE inhibitors, thiazide diuretics and aplpha glycosidase inhibitors.

CONCLUSION

The survey analysis of diabetes mellitus and associated diseases epidemiological studies in Coimbatore, have demonstrated that the prevalence is increasing exponentially in our country. Our studies demonstrated increasing

diabetes mellitus and associated level were driving this epidemic. There is an urgent need to develop suitable strategies for prevention of diabetes mellitus and associated disease in India using population based approaches. This work will be useful for diabetes mellitus research workers to find the new entity for the treatment of DM to reduce prevalence of diabetes mellitus and minimize the associated diseases.

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