SUMMARY

709 patients of recently detected diabetes mellitus were studied. During study various aspects like presenting complains, demographic characteristics, physical examination and various investigations were evaluated in totality, study results summarized as below.

A. Total **709 recently diagnosed diabetes patients** enrolled in the study. It comprised of 427 males and 282 females with their age ranging from 2 year to 80 years.

B. **622(87.7%)** patients had **Type 2 diabetes**, 66 (9.3%) patients had **Type 1 diabetes**, 10 (1.4%) patients had **Gestational diabetes**, 3 (0.4%) patients had **Secondary Diabetes** (0.4%) and 8 (1.12%) patients had **Impaired Glucose Tolerance**

C. 622(87.7%) patients were having **Type 2 diabetes** which formed the **core population** for the study & results are summarized below as a separate category.

1. 384(61.7%) patients were males with mean age 46.93±11.11 years and 238(38.3%) patients were females with mean age 48.95±10.55 years.

2. 83.8% (521/622) were Hindu, 99.5% (619/622) were literate and 60% (373/622) were working. Out of which includes 85.2% (327/384) were males and 19.3% (46/238) were females.

3. As far as presenting symptoms at the time of diagnosis is concerned, 68.2% of our patients had classic diabetic symptoms (nocturia, polyuria, polydypsia, and weight loss). 58.7% (365/622) patients had weakness and fatigue. 44.9% (279/622) presented with leg pain,
tingling, burning and numbness. 17.7% (110/622) had infection, 9.1% (57/622) had history of blurred vision, 4.5% (28/622) had sexual dysfunction and 0.3% (2/622) had cranial nerve palsy. Few patients had more than one group of symptoms at time of diagnosis. Only 7.2% diagnosed without regard to symptoms (accidentally) during routine check up.

4. 83.4% (519/622) patients were vegetarian and very few (16.6%, 103/622) patients were non vegetarian.

5. 27.8% (173/622) patients had some form of habits. 9% (56/622) patients were smoker, 19.5% (121/622) patients were chewing tobacco/snuffing & 8.2% (51/622) patients were consuming alcohol. Few patients had more than one habits.

6. 57.7% (359/622) patients had a positive family history of diabetes mellitus. 37.0% (230/622) patients had single parent with diabetes, 10.5% (65/622) patients had both parents with diabetes and 26.7% (166/622) patients had near relatives suffering with diabetes.

7. The onset of T2DM increases with age, especially after 30 years, and reaches a maximum (35.2%, 219/622) at 41-50 years of age. In 61.6% (383/622) the age of onset of diabetes was below 50 years which are considered the potentially productive years of life. In 4.5% (41/622) the onset was below 30 years of age.

8. 84.4% (525/622) patients were living sedentary life. Only 1.3% (8/622, all males) patients were involved in heavy work.
9. 82.3% (512/622) patients with Type 2 DM were overweight/obese (BMI≥23), 16.1% (100/622) patients were normal weight (BMI 18.5-22.9) and 1.6% (10/622) patients were under weight (BMI<18.5).

10. 70.7% (440/622) patients had central obesity (abnormal waist circumference). Central obesity was more common in females (83.2%, 198/622) than males 63.0% (242/622).

11. 52.3% (201/622) male and 55% (131/622) female patients had abnormal Waist Hip Ratio.

12. 57.9% (360/622) patients were hypertensive. There was no gender difference (male: 58.6%, female: 56.7%). The prevalence of hypertension steadily increased with age in both sexes and was 1.8% (7/384) in male and 0.8% (2/238) in female at the age group of 21-30 years, which increased rapidly and reached a prevalence of 19.5% (75/384) in male and 15.1% (36/238) in female at the age group of 51-60 years.

13. The mean BP among the normotensives was SBP: 118.53±10.62 mmHg, DBP: 78.79±5.49 mmHg, among treated hypertensives it was SBP: 130.94±15.93 mmHg, DBP: 86.40±9.12 mmHg and among untreated hypertensives it was SBP: 143.0±14.65 mmHg, DBP: 91.25±11.05 mmHg.

14. Isolated systolic hypertension (SBP ≥140 and DBP <90 mm Hg) was present in 7.5% (47/622) of the subjects [7.5% (29/384) of male and 7.6% (18/238) of female] while isolated diastolic hypertension (DBP ≥90 and SBP <140 mm Hg) was present in 8.0% (50/622) of the subjects [10.7% (41/384) of male and 3.8%, (9/238) of female]. Female had a lower prevalence of isolated diastolic blood pressure compared to male.
15. A large proportion of patients (27.8%, 173/622) were in the prehypertensive group.

16. Out of 33.3% (207/622) of self reported hypertensive patients, 81.6% (169/207) were under treatment for hypertension & only 43.3% (80/207) patients had blood pressure under control which represents 22.2% (80/360) of the total diabetic hypertensive group.

17. 78.3% (487/622) of the subjects [78.4% (301/384) males and 78.2% (186/238) females] had lipid abnormality. Hypercholesterolemia was present in 41.5% (258/622), hypertriglyceridemia was present in 50.5% (314/622), low HDL was present in 48.9% (304/622) and high LDL was present in 70.6% (437/622) of patients. Few patients had more than one abnormalities. Decreased HDL-C levels were found to be more in females.

18. As defined by IDF consensus 2005 for Asian-Indians, 61.1% (380/622) patients, 55.5% (213/384) of males and 81.9% (195/238) female patients had metabolic syndrome.

19. Prevalence of metabolic syndrome, as defined by modified IDF definition consensus statement was 78.8% (490/622). It was higher as compared to prevalence of metabolic syndrome defined by IDF consensus. According to both criteria, metabolic syndrome was more common in female as compared male.

20. 92.6% (576/622) of patients with type 2 diabetes had HbA1c >7 and 26.1% (162/622) had HbA1c > 10. Only 7.4% (46/622) had HbA1c <7.
21. 46% (286/622) patients had microvascular complications at the time of diagnosis. 9.8% (61/622) of the patients had more than one microvascular complication at time of diagnosis. 0.5% (3/622) patients had all the three microvascular complications i.e. retinopathy, neuropathy and nephropathy.

22. 4% (25/622) had Diabetic retinopathy (DR). Background Diabetic Retinopathy was present in 3.2% (20/622) patients, Preproliferative Diabetic Retinopathy was present in 0.5% (3/622) and Maculopathy was present in 0.3% (2/622). Retinopathy was more common among male (5.2%, 20/384) than female (2.1%, 5/238).

23. 15.4% (96/622) had significant peripheral neuropathy, 41.0% (255/622) had impaired peripheral sensation. Total 56.4% (351/622) had some form of neuropathy.

24. Overt diabetic nephropathy (proteinuria) was present in 10.0% (62/622) and incipient diabetic nephropathy (microalbuminuria) was present in 26.8% (167/622). Total 36.8% (229/622) had nephropathy.

25. 7.2% (45/622) patients had Coronary Heart Disease (CHD), 8.3% (52/622) patients had Peripheral Vascular Disease (PVD) and 0.3% (2/622) patients had history of Cerebro Vascular Accident.

26. 7.3% males (28/384) had sexual dysfunction as a presenting complain. No female had similar complain.

27. 16.4% (102/622) had cutaneous manifestation. Out of 102 patients, 53.9% (55/102) were males and 46.1% (47/102) were females. 9.3% (58/622) had boils, perputitis, candida albicans infection of the female genitalia and paronychia. 1.6% (10/622) had Vitiligo and 5.4% (34/622) had Acanthosis Nigricans. Pruritus was the most common
complain. Some of the patients had more than one cutaneous manifestation at time of diagnosis.

D. Out of total 709 patients studied, 9.3% (66/709) patients were diagnosed as having Type 1 DM. 60.6% (40/66) were male and 39.4% (26/66) were female. The mean age of onset of disease was 14.5 years in male & 12.9 years in female. In 78.8% the age of onset of diabetes was below 20 years. Majority belonged to Hindu religion (90.9%) and the rest were from other religion. 60.6% (40/66) had Diabetic Ketoacidosis (DKA) at the time of diagnosis and 37.8% (25/66) were hospitalized at the time of diagnosis. The reasons for hospitalization were DKA in 36.4% (24/66) patients and severe hyperglycemia in 1.4% (1/66) patient.