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# A Study to Evaluate the Medical Emergencies and Complications Among Diabetic and Non-Diabetic Patients Admitted in Medicine Department of Tertiary Care Hospital, Ahmedabad

Medical Science

**KEYWORDS :** Complications, Diabetes, Medical emergencies, Non-diabetes

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## ABSTRACT

*Objective: To evaluate medical emergencies and complications among diabetic and non-diabetic patients.*

*Methodology: A retrospective record base study along with interview of participants using semi-structured questionnaire was carried out at medicine department, Tertiary care hospital, Ahmadabad for period of 3 months. All 847 patients (age >20 years) admitted in hospital during study period were included.*

*Result: Among the total 847 study participants about 84(9.9%) were diabetic. The ratio of occurrence of medical emergencies among diabetic and non-diabetic patients was found statistically significant While occurrence of complications among diabetic & non-diabetic patients were Neuropathy(16.66% & 3.27%), Cataract(8.33% & 5.63%), Peripheral vascular disease(5.95% & 3.80%), Retinopathy(5.95% & 2.22%) and Renal failure(2.38% & 2.22%) respectively. Occurrence of complications among the diabetic patients was found to be more which was supported by statistical analysis.*

**Introduction**

Diabetes Mellitus is a major public health problem with a rising prevalence worldwide.[1] At present India is considered as a diabetes capital of the world. There are 3.5 crore diabetics in India, and this figure is expected to rise up to 5.2 crore by 2025.[2] Diabetes is proved to be a growing cause of disability and premature death, mainly through cardiovascular disease and other chronic complication.[3] A substantial body of evidence suggests that it could reach epidemic proportion particularly in developing and newly industrialized countries.[4] Diabetes mellitus basically produces changes in the blood vessels and hence can affect almost every part of the body. It is known that diabetes mellitus is a leading cause of acquired blindness. It carries 2-3 times higher risk of heart attacks and an even higher risk for stroke. Diabetics are at 5 times higher risk to develop nephropathy and an estimated 25% of all new cases of end stage renal diseases are the result of diabetes. Diabetic patients are five times more prone to gangrene and diabetes accounts for 50% of all non traumatic complications.[5]

**Objectives:**

- To evaluate medical emergencies and complications among diabetic and non-diabetic patients.
- To correlate occurrence of medical emergencies and complications with diabetes.

**Materials and Methodology:**

Study design: A retrospective hospital based study. Study setting: Medicine department, tertiary care hospital (New civil hospital, Ahmedabad). Sample size: 847 patients. Study period: 21/09/2012 to 31/12/2012 (Apprx. 3 months). Study method: All 847 patients (age >20 years) admitted in hospital during study period were included. The participants were interviewed using semi-structured questionnaire as well as their records were observed. Data analysis: Data was compiled and analysed in MS Excel, using chi-square test, proportions and percentage.

**Results:**

A study done in tertiary care hospital Ahmedabad has shown that 9.9% of patients were having diabetes. Gender wise presentation has shown more occurrence of diabetes among male (59.52%) as compared to female (40.48%). Age wise presentation of diabetics shown that highest occurrence of diabetes was among 61 to 70 years of age group and there was increasing occurrence of diabetes with higher age up to age of 70 years and there after occurrence shown to decrease age which may be due to higher mortality among diabetic patients.

**Figure 1: Occupation profile of study population**

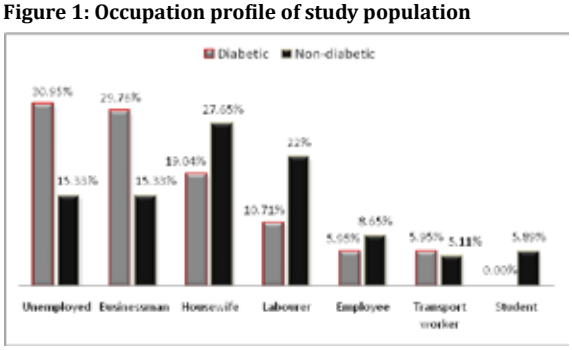


Figure 1 Shows higher occurrence of diabetes was there among unemployed (30.95%) and businessman (29.76%). This is because sedentary lifestyle plays crucial role in occurrence of diabetes.

**Figure 2: Occurence of medical emergencies among diabetic and non-diabetic patients**

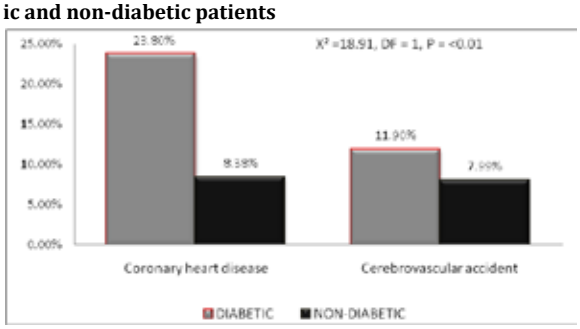


Figure 2 Occurrence of medical emergencies was higher among diabetics as compared to non-diabetics. Coronary heart disease was present in 23.80% of diabetics as compared to 8.38% of non-diabetics. Cerebrovascular accidents were present in 11.90% of diabetics as compared to 7.99% of non-diabetics.

**Figure 3. Occurence of complications among diabetic and non-diabetic patients**

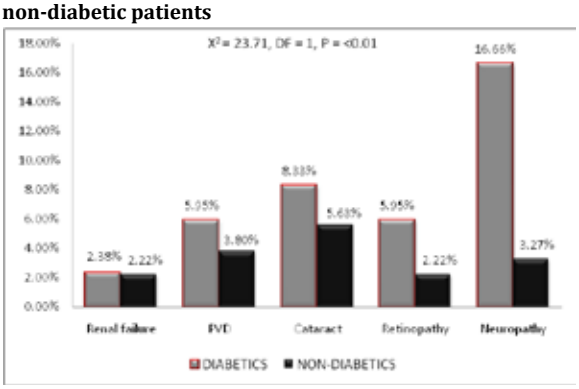


Figure 3 Occurrence of complications among diabetics was higher than the same in non-diabetics. Occurrence of complications among diabetics & non-diabetics were Neuropathy (16.66% & 3.27%), Cataract (8.33% & 5.63%), Peripheral vascular disease (5.95% & 3.80%), Retinopathy (5.95% & 2.22%) and Renal failure (2.38% & 2.22%) respectively.

**Discussion:**

The present study has observed very high occurrence (9.9%) of diabetes among study population. Similar finding was noted in a study conducted in Maharashtra, Deo SS et al[6] which shown 8.9% of occurrence of diabetes. Yet in another study in rural area of India in year 2004, Yagnik CS et al[7] reported occurrence of 6.3%.

The ratio of occurrence of medical emergencies among diabetic and non-diabetic patients was found statistically significant($X^2$ =18.91, DF = 1, P = <0.01) with coronary heart disease 20(23.80%):64(8.38%) and cerebrovascular accidents 10(11.90%):61(7.99%). While occurrence of complications among diabetic & non-diabetic patients include Neuropathy(16.66% & 3.27%), Cataract(8.33% & 5.63%), Peripheral vascular disease(5.95% & 3.80%), Retinopathy(5.95% & 2.22%) and Renal failure(2.38% & 2.22%) respectively. These findings are in favour of very higher occurrence of complications among diabetics as compared to non-diabetics in study population. This has also shown statistical significance. ($X^2$ = 23.71, DF = 1, P = <0.01)

In a South India, a similar high occurrence of CHD (30.3%) among the diabetics was revealed by Ramachandran et al. [8] Yet in another study Ramachandran et al [9] reported a occurrence of 0.9% and 61.9% for stroke and neuropathy respectively among the diabetes subjects while the occurrence of PVD was 4.1%. Around 17.2% of diabetics had cataract as a complication in a study (Mohan V et al) carried out in Southern India. [10] Rema M et al [11] reported a retinopathy occurence of 34.1% among diabetics, in South India.

**Conclusion**

The occurrence of medical emergencies and complications was higher among diabetic individual as compared to non-diabetics in study population in Ahmedabad. All the diabetic complications observed need to be addressed in prevention and control strategies. Also, community awareness programmes need to be implemented to percolate the knowledge about the diabetic complications, the available screening facilities for their early detection, treatment and care.

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