

Occurrence and Predictors of Microalbuminuria among Patients with Type II Diabetes Mellitus

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Diabetes is the most common cause of end stage renal disease and a major risk factor for cardiovascular disease and blindness. According to *Diabetes Atlas* published by International Diabetes Federation it is estimated that there were 40 million persons with diabetes in India in 2007 and this number is predicted to rise to almost 70 million by 2025. It is estimated that every fifth person with diabetes will be an Indian. Presence of micro-albuminuria predicts worsening of renal disease to overt diabetic nephropathy and elevated risk of cardiovascular disease. It is a strong predictor of diabetic nephropathy and main cause of mortality and morbidity in patients with diabetes mellitus (DM).

Objectives

This study attempted to :

- ◆ Determine the occurrence of microalbuminuria among patients with type II diabetes mellitus in 'KSHEMA' hospital;
- ◆ Determine the predictors of microalbuminuria among patients with type II DM;
- ◆ Find the association between the occurrence and selected variables; and
- ◆ Predict the relative risk of

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microalbuminuria and selected variables.

Methodology

In this descriptive study, carried out to detect the occurrence and predictors of microalbuminuria, 40 patients with type II diabetes mellitus who were admitted in KSHEMA hospital during January 2010 to May 2010 were selected as sample by using purposive sampling technique. The conceptual framework for the study was developed from Health behaviour change model of Prochaska Norcross & Diclemente (1994).

The tools used for data collection were Demographic proforma and Indirect slide test (to detect Microalbuminuria).

Findings

- The occurrence of microalbuminuria among the selected 40 patients with type II diabetes mellitus was found to be 3 (7.5%).
- Majority of the sample (n=31, 77.5%) were above 50 years of age group and most of them (n=25, 62.5%) were males.
- Majority of the patients (n=34, 85%) were literate, only 6 (15%) were illiterate.
- Among the sample, 16 (40%) were labourers and 12 (30%) were agriculturists, 5 (12.5%) were private employees, 4 (10%) were businessmen and 3 (7.5%) were government

employees.

- With regard to religion, 30 (75%) were Hindu, 6 (15%) were Christian and 4 (10%) were Muslim.
- 35 (87.5%) patients had the monthly income between Rs.2000-6000.
- Majority of the diabetic clients (30, 75%) had information about their condition through TV and radio.
- Majority of the diabetic clients (35, 87.5%) were suffering from diabetic mellitus for more than 5 years and 37 (92.5%) had problems related to diabetes mellitus.
- 20 (54%) had eye, 15 (40.5%) had skin and around 2 (5.5%) had neurological problems.
- 18 (45%) of the diabetics were smokers and majority of them had smoking habit for more than 5 years.
- 17 (42.5%) among the diabetics were alcoholic and 9 (52.95%) consumed alcohol for more than 5 years.
- 30 (75%) of the patients had normal body mass index (BMI) and 10 (25%) were obese.
- 35 (87.5%) had normal blood pressure (BP) and 5 (12.5%) were hypertensive; 33 (82.5%) had normal glycosylated Hb and 7 (17.5%) had abnormal glycosylated Hb findings.
- No significant association was found between occurrence of micro-albuminuria and selected variables

like age, gender, type of family, religion, income, occupation, hypertension, BMI, smoking and alcoholism. However a significant association between occurrence of microalbuminuria and glycosylated Hb ($\chi^2=9.37$, $df=1$, $p<0.05$).

- Odds ratio revealed that there is negative association between occurrence of microalbuminuria and selected variables like age, gender, duration of diabetes mellitus, hypertension and BMI.
- Clinically it is striking to note that those clients who were identified with microalbuminuria (n=3, 7.5%) were above 50 years, were males, and were suffering from diabetes for more than 5 years and had an abnormal glycosylated Hb.

Conclusion

Diabetes mellitus has long been recognised as a major public health problem with far reaching consequences, not only for its adverse health impact on individuals, but also for its economic burden on the health care system and the society at large. Type 2 DM was common about couple of decades ago among the middle aged and the affluent; however, with globalisation and the changing lifestyles the disease is now very common in developing countries. India and China together hold the largest number of diabetes with India being known as the diabetes capital of world. Microalbuminuria, an early marker of diabetic nephropathy is an independent risk fac-

tor for ESRD. Micro-albuminuria is related to medical problems and decreased quality of life for many patients, and leads to a heavy financial burden on healthcare systems. Therefore early detection of renal impairment and consequent treatment with preventive strategies is very important.

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