

## **Incidence of Diabetes Mellitus and Chronic Kidney Disease and Assessment of Risk Factors among Tuberculosis Patients Attended to the Chest Clinic, Regional Director's Office of Health Services, Badulla**

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### **Abstract**

The incidence of Diabetes Mellitus (DM) and Chronic Kidney Disease (CKD) is significantly high in TB patients. Risk factors associated with TB are multifactorial. A prospective cross-sectional study was conducted to investigate the risk factors and incidence of DM and CKD among tuberculosis patients attending Chest clinic, Badulla, Sri Lanka from October 2022 to December 2022. The ethical clearance was obtained from the ethical review committee of General Sir John Kotelawala Defence University. Data such as sociodemographic characteristics, risk factors and laboratory investigation findings were collected from patient data base and clinical records to a questionnaire. Patient Body Mass Index (BMI) and eGFR was calculated by the investigators. Descriptive statistics, Chi-square tests and Pearson correlations were used to analyze data. Results showed a higher prevalence of tuberculosis (TB) among males (69.5%) with mean patient age of 47 ( $\pm 17$ ). Most TB patients (52.2%) had a mean BMI of 19.04 ( $\pm 4.67$ ) and were underweight based on BMI, and a significant number had education up to an ordinary level (85.5%). Majority of employed patients (67.4%) had low income (<Rs. 15,000 per month). Onsite visits of the Public Health Inspector indicated unsatisfactory ventilation for over half of the patients (51.3%). Common symptoms included cough (78.5%), loss of appetite (66.0%), and weight loss (66.0%). Diabetes (17.5%) and chronic kidney disease (CKD) (3%) were observed among TB patients, with some showing reduced kidney function (eGFR < 60 ml/min/1.73m<sup>2</sup>) based on calculated eGFR. Factors such as low education, low income, poor ventilation, unsafe water (71.6%), and imprisonment (8.5%) were potential TB risk factors. Surprisingly, smoking (65.5% non-smokers) and alcohol consumption (59.0% non-consumers) didn't appear significantly linked to TB in this study.

**Keywords:** *DM, CKD, Risk factors*