Title: Screening of diabetes mellitus among new cases of tuberculosis

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Objectives The risk relationship between diabetes and tuberculosis is largely suggested by epidemiological evidences but the preferred method for screening of DM among TB cases has not been determined. This study performed to compare efficacy of fasting blood sugar (FBS) and glycosylated hemoglobin (Hb A1c) for screening of DM among TB cases. Methods In a prospective study, 221 new cases of tuberculosis were recruited in National Research Institute of Tuberculosis and Lung Disease, Tehran, Iran. On the first day of TB diagnosis and before initiation of anti tuberculosis drugs, fasting blood sugar and glycosylated hemoglobin were measured. DM was defined as FBS more than 126 mg/dl or Hb A1c more than 6.5%. After exclusion of known cases, rate of new cases of DM diagnosed by every test was measured. Results Among 221 new cases of tuberculosis, Sixty seven patients had FBS>126 mg/dl and Hb A1c was more than 6.5% in 134 persons. History of DM was positive for 31 and 112 cases were found after TB diagnosis. Hb A1c was more sensitive than FBS for diagnosis of DM (92% in comparison to 32%). Nine cases of recently diagnosed DM had normal level of HbA1c but FBS>126 mg/dl. Conclusion DM was very common among new cases of tuberculosis in our setting. Majority of DM cases were unaware of their disease. Measurement of Hb A1c is more effective than FBS for screening of DM among tuberculosis patients.