

# Diabetes Is Associated With Worse Clinical Presentation in Tuberculosis Patients From Brazil: A Retrospective Cohort Study

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**Background:** The rising prevalence of diabetes mellitus (DM) worldwide, especially in developing countries, and the persistence of tuberculosis (TB) as a major public health issue in these same regions, emphasize the importance of investigating this association. Here, we compared the clinical profile and disease outcomes of TB patients with or without coincident DM in a TB reference center in Brazil. **Methods:** We performed a retrospective analysis of a TB patient cohort (treatment naïve) of 408 individuals recruited at a TB primary care center in Brazil between 2004 and 2010. Data on diagnosis of TB and DM were used to define the groups. The study groups were compared with regard to TB disease presentation at diagnosis as well as to clinical outcomes such as cure and mortality rates upon anti-tuberculosis therapy (ATT) initiation. A composite score utilizing clinical, radiological and microbiological parameters was used to compare TB severity between the groups. **Results:** DM patients were older than non-diabetic TB patients. In addition, diabetic individuals more frequently presented with cough, night sweats, hemoptysis and malaise than those without DM. The overall pattern of lung lesions assessed by chest radiographic examination was similar between the groups. Compared to non-diabetic patients, those with TB-diabetes exhibited positive acid-fast bacilli in sputum samples more frequently at diagnosis and at 30 days after ATT initiation. Notably, higher values of the TB severity score were significantly associated with TB-diabetes comorbidity after adjustment for confounding factors. Moreover, during ATT, diabetic patients required more frequent transfers to TB reference hospitals for complex clinical management. Nevertheless, overall mortality and cure rates were indistinguishable between the study groups. **Conclusions:** These findings reinforce the idea that diabetes strongly influences TB severity and clinical outcomes.

**Palavras-chave:** Tuberculosis, Diabetes, TBDM.

**Apoio:** Este estudo foi financiado por programa de pesquisa da Fundação Oswaldo Cruz (FIOCRUZ). LG-S e JLA-J receberam bolsas de iniciação científica da Fundação de Amparo à Pesquisa da Bahia (FAPESB).