Title: Analysis of risk factors of recurrent tuberculosis in Han and Tibetan populations in Southwest China

Dr. Panwen 11784 Tian mrascend@163.com ¹ and Prof. Fuqiang 11785 Wen wenfuqiang@126.com MD ¹. ¹ Department of Respiratory Medicine, West China Hospital of Sichuan University, Chengdu, Sichuan, China, 610041.

Body: Background: Recurrent tuberculosis (TB) poses significant threats, including drug resistance, to TB control programs. However, the causes of TB recurrence, particularly in Southwest China, which is the high burden area, have not been well described. Objectives: To investigate the risk factors of recurrent TB, and analyze the differences between Han and Tibetan populations with TB recurrence in Southwest China. Methods: A population-based retrospective case-control study was carried out in Southwest China. All patients with culture-confirmed TB and drug susceptibility testing were included between 2000 and 2001 and followed until December 2010. Two category logistic regression was used in the statistical analysis. Results: We found that, among 80 patients (40 Han patients and 40 Tibetan patients) with recurrent TB who completed adequate therapy for a first episode of TB, factors independently associated with a greater risk of recurrent TB were not receiving directly observed therapy (HR 5.867, 95% CI 2.557-13.461), diabetes (HR 3.288, 95% CI 1.301-8.312), smoking (HR 2.387, 95% CI 1.328-4.291) and malnutrition (HR 1.910, 95% CI 1.110-3.285). The independent risk factors of recurrent TB for the Han patients included diabetes and smoking while the independent risk factors for the Tibetan patients included not receiving directly observed therapy and malnutrition. Conclusions: Our results establish that not receiving directly observed therapy, diabetes, smoking and malnutrition are associated with recurrent TB in Southwest China. To reduce the relapse rate of TB, especially for Tibetan populations, pursuing high-quality DOTS is essential.