Comparing Incidence of Tuberculosis Disease in Household Close Contact of Primary Drug-resistant and Drug-susceptible Tuberculosis

Anya Kiattiweerasak¹  Kunchit Piyavechviratana²

¹Division of Internal Medicine, Department of Medicine, Faculty of Medicine, Phramongkutklao Hospital, Bangkok 10400, Thailand, ²Division of Pulmonary and Critical Care Unit, Department of Medicine, Faculty of Medicine, Phramongkutklao Hospital, Bangkok 10400, Thailand

Background: Tuberculosis remains one of the leading causes of death worldwide, despite the availability of effective anti-TB drugs. Multidrug resistant tuberculosis may lead to a serious problem in many countries and significantly causes higher rates of morbidity and mortality. Many studies have been conducted to identify risk factors for drug resistant tuberculosis.

Objective: To compare the incidence of tuberculosis disease in household close contact with primary drug-resistant and drug-susceptible tuberculosis patients in Phramongkutklao Hospital.

Methods: A descriptive cross-sectional study of close contact with patients diagnosed of primary drug-resistant and drug-susceptible tuberculosis was conducted between January 2011 and December 2016 in Phramongkutklao Hospital. All demographic data and clinical variables were collected. A univariate analysis and multivariate regression analysis were performed to identify relevant risk factors for tuberculosis disease in primary drug resistant and drug-susceptible tuberculosis.

Results: There were 427 close contact tuberculosis patients from January 2011 to December 2016. Mean age was 44.64 (±17.56) years. Close contact with primary drug-resistant and drug-susceptible tuberculosis were diagnosed in 36 (43.9%) and 46 (56.1%), respectively. The risk factors for tuberculosis disease in close contact patients were contact time of 9-16 hours per day with an adjusted odds ratio of 2.86 (95% CI 1.70 - 4.70, p <0.001) and history of intravenous drug user with an adjusted odds ratio of 9.43 (95% CI 3.84 - 23.13, p<0.001).

Conclusion: Close contact of primary drug-susceptible and drug-resistant tuberculosis is susceptible to tuberculosis disease. Risk factors of tuberculosis disease among the close contacts are the history of an intravenous drug user and close contact duration time of more than 9 hours.

Keywords: Drug resistant tuberculosis, Close contact