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Barriers to prompt respiratory isolation of hospitalized patients with infectious tuberculosis: a hospital-wide investigation

Hsin-Yun Sun*¹, Fang Chi-Tai², Yee-Chun Chen³, Po-Ren Hsueh³, Jann-Yuan Wang⁴, Shwen-Chwen Chang³, Pan-Chyr Yang⁵, Jung-Der Wang⁶, Nai-Kuan Chou⁷

¹*National Taiwan University Hospital; Department of Internal Medicine*

²*Institution of Epidemiology and Preventive Medicine, College of Public Health National Taiwan University*

³*National Taiwan University Hospital; Internal Medicine*

⁴*National Taiwan University Hospital*

⁵*National Taiwan University*

⁶*National Cheng Kung University*

⁷*National Taiwan University Hospital; Department of Surgery*

Background: Failure to promptly implement respiratory isolation of hospitalised infectious tuberculosis (TB) patients could lead to nosocomial TB transmission. However, the extent of this problem and the impact of the improvement of infection control have not been well studied.

Material/methods: We conducted a retrospective study in a medical centre with a high TB patient load. The infectious durations of hospitalised patients in 2001 and 2014, respectively, with culture-positive pulmonary TB were calculated as the date of admission to the date of obtaining non-infectious status, and their distribution in 25 wards/units within the hospital were evaluated. Kaplan-Meier

analysis and the Cox regression model were used to identify factors associated with prompt respiratory isolation. The infectious person-days (PDs) in the two periods were compared to evaluate the impact of infection control.

Results: There were 4,778 infectious PDs from 160 hospitalised pulmonary TB patients in 2001. The number decreased to 1,502 infectious PDs from 66 patients in 2014. The infectious PDs were widely distributed throughout the 25 wards/units in the hospital. A negative sputum acid-fast smear and possibility of TB not considered at admission were inversely associated with prompt respiratory isolation in the Cox regression analysis in both study periods.

Conclusions: Despite improvement of infection control from 2001 to 2014, hospitalisation of infectious TB patients without proper respiratory isolation remains a widespread problem across different medical and surgical subspecialties and in general wards. Strategies need to be developed to overcome the barriers to prompt respiratory isolation of such patients.