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Project Title: A survey of tuberculosis control program in Southern Taiwan: Factors analysis of tuberculosis exposure days in hospitals.

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Executing Institute: Center for Disease Control Department of Health The Executive Yuan, Republic of China.

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Abstract:

Background

After SARS, health care systems are more aware of nosocomial TB infections. Many episodes of nosocomial TB outbreaks are reported in hospitals in Taiwan in recent years. Health care systems should emphasize the infection control strategy to reduce nosocomial TB. The aim of the study was to explore the risk of nosocomial TB infection posed by patients with pulmonary TB in teaching hospitals in southern Taiwan.

Methods

From 2003 to 2006, we conducted a retrospective study to quantify occupational hazards caused by pulmonary TB patients in teaching hospitals in southern Taiwan. In addition to clinical characterizations of patients, we calculated the expose-time of TB (possible time of spreading TB) in OPD, Emergency Department, and general wards, and analyzed indicators might influence the expose time, including time lag between seeking medical help, and being suspected as TB infection, and receiving anti-TB medications, rate and time of isolation of hospitalized patients, and efficiency of laboratory examinations.

Results

During the study period, a total of 810 pulmonary TB patients confirmed by sputum culture positive for *Mycobacteriae tuberculosis* were enrolled for the study, including 309 patients from the local hospital and 501 from the medical center. Among them, 69% of enrolled patients were male, 44% were over 65 years old, and 26% had the diabetes mellitus. The most common clinical presentations of these patients were cough more than two weeks (37%) and fever (15%). Abnormal CXR finding was reported in 771 (95%) patients. The mean time of expose-days in OPD, Emergency Department, and general wards was 0.35, 0.41, and 6.3 days. Among 515 hospitalized patients, only 114 of them had been isolated, and the mean time of admission and isolation were 24.0 and 13.6 days. The average interval from the first medical consultation to the suspect ion of TB infection and initiation of anti-tuberculosis treatment was 12.0 and 28.4 days, respectively.

The average time for laboratories to report acid-fast stain of sputum and culture for *Mycobacteriae tuberculosis* was 1.2, and 50.6 days, respectively.

Conclusion and recommendation

Pulmonary TB disease continues to be important occupational hazards for health care workers (HCWs), especially those work in general wards. In addition to strict implementation of TB control measures, early identification, isolation, and treatment of pulmonary TB patients is mandatory to reduce the hazards of nosocomial TB infection.

Key words : pulmonary TB, quantified hazards of nosocomial TB infection,