

Abstract

Objective: To investigate the reason of change diagnosis of tuberculosis and the cause of high case fatality of tuberculosis in Taiwan.

Material and Method: Tuberculosis suspects and cases reported in 2003 in Taiwan were obtained from Center for Disease Control. All reported cases in Taipei in 2003 were investigated by obtaining information from medical chart.

Finding: There were 22,362 tuberculosis suspects and cases reported to CDC in 2003 in Taiwan : 679 (3%) were foreigner, 27(0%) were classified as death before registration, 2 (0%) were completed treatment before registration, 4345 (19%) had diagnosis changed to other disease or condition that did not need antituberculosis treatment by reporting facilities, 2267 (10%) were classified as diagnosis changed by administrative coding, and 15042 (67%) were classified as newly reported tuberculosis cases on 30 September 2004. Of the 22,362 reported suspects and cases, 18,415(82%) have pulmonary tuberculosis, 1576 (7%) had combined pulmonary and extrapulmonary TB and 2371 (11%) had extrapulmonary TB. There were 2096 tuberculosis suspects and cases in Taipei in 2003. Of the 2096 reported suspects and cases, 78 were foreigner and 2018 were citizen of Taiwan. Of the 2018 citizen cases, the team had obtained diagnosis and treatment data of 1973 (97.8%) patients from medical chart by November 30, 2005. Classification of the 1973 patients on September 30, 2004 by Taiwan CDC were as followed: 2 (0.1%) were classified as death before registration, 1 (0.1%) completed treatment before registration, 462 (23.4%) had diagnosis changed by reporting facilities, 201 (10.2%) had diagnosis changed by administrative coding, and 1306 were classified as newly reported tuberculosis cases. Of the 1973 patients, anti-tuberculosis drugs have been commenced for 1716 (87%) patients and 257 (13%) did not receive antituberculosis treatment. Patients aged 45 or more were more likely to have diagnosis changed by reporting facilities or by administrative coding than patients aged <45. Smear positive patients, culture positive patients and patients with identification confirmation of being infected with *M. tuberculosis* were less likely to have diagnosis changed. Age group, smear positive, identification, and visiting other health institutions are significantly associated with a change of diagnosis by a clinician after controlling for other variables. Official outcome were unable to detect patients who interrupted treatment for 2 months. Official outcome was also unable to identify patients remain sputum positive 5 months after initiation of treatment. Official outcome over classified the number of patient success and died and under classified the number of patients failed and defaulted. Of the 150 patients died, 130 (86.7%) aged 65 years or more and 148 (98.7%) had concomitant diseases.

Discussion: Currently, the recording and reporting system in Taiwan has not yet paid attention to identify cases who interrupt treatment for two months and those who remained sputum positive after 5 months of treatment. Outcome of treatment in this cohort is unsatisfactory as the proportion failed and defaulted is high. A high case fatality of tuberculosis in Taiwan probably was caused by: 1) misclassification of outcome, 2) a high proportion of patients is the elderly and 3) a high proportion of cases had concomitant diseases. Furthermore, a substantial proportion of cases were in fact bacteriologically unconfirmed, who may not be

true tuberculosis cases.