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DOUNGNATE TONIMIT: COST-EFFECTIVENESS OF DIRECTLY OBSERVED TREATMENT, SHORT COURSE VERSUS SELF-ADMINISTERED TREATMENT OF PULMONARY TUBERCULOSIS, THESIS ADVISORS: YAOWALUK NGOENWIWATKUL, D. D. S., Dr. P H., SAMRIT SRITHAMRONGSAWAT, M. D., M. Sc. (Health Service Management), SOMSAK AKKSILP, M. D., M. Sc., PRATANA SATTITVIPAWEE, M. P. H. (Bios)134 p. ISBN 974-663-952-8

Global resurgence of tuberculosis (TB) including multidrug resistant tuberculosis (MDR-TB) poses a challenge for TB control programmes. Currently, the Thai health service system offer Directly Observed Treatment, Short course (DOTS) and the conventional Self-Administered Treatment (SAT) as TB controlling strategies. DOTS has been used since 1996 and the number is expected to rise. However, little research has been undertaken on their cost-effectiveness particularly in Thailand. In this study, we investigated cost-effectiveness between DOTS and SAT by using a retrospective cohort design conducted on a cohort of 204 new pulmonary TB patients with sputum smear positive, regardless of HIV status. All registered patients between October 1, 1998 and March 31, 1999 were followed up until the occurrence of events or the day of study termination (November 30, 1999) and a cost per case cure was calculated for each strategy. In general, the TB patients were mostly unskilled male workers with the mean age of 45 years, graduated from primary school level. There was a high death rate particularly among smoking males aged 15-34 years. Results revealed that the proportion of defaulters at the second month of treatment was 2.6% for DOTS compared with 11.5% for SAT. The median time-to-cure among the DOTS group (184 days) was shorter than those among the SAT group (210 days). Our findings evidence that the cure rate of patients under DOTS (67.5%) was significantly higher than that under SAT (34.5%) with the net gain of 96%. The unadjusted analysis showed that patients under DOTS were more likely to be cured at 1.96 times higher than that of SAT ($p < 0.01$). Using Cox's proportional hazard model, the patients treated under DOTS had the estimated relative hazard at 2.91 (95% CI 1.70-4.70) compared with those under SAT after adjusting for occupation and residence. Although an average cost per patient treated under DOTS (7,363 Baht) was higher than those under SAT (5,422 Baht), the difference was not statistically significant ($p = 0.77$). In fact, a cost per case cured under DOTS (10,905 Baht) was lower than those under SAT (15,724 Baht). Sensitivity analysis indicated that the advantage of cost-effectiveness of DOTS and SAT was sensitive to cure rate but not for travel cost and labour cost. Moreover, sensitivity results indicated that the net gain between the two programmes should be at least 36% in order to maintain an economic advantage of DOTS over SAT. In conclusion, DOTS offer a higher cure rate than SAT resulting in increased cost savings for public health, thus DOTS is superior to SAT for TB control programmes. Further investigation on high death rates and implementing a modified DOTS (M-DOTS) strategy in SAT setting are recommended.