The Trend and Predictors for Tuberculosis Treatment Success Among Children in Malaysia Using MyTB Version 2.1 Database Over Five Years

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ABSTRACT

Introduction: Tuberculosis (TB) among children remains a significant public health problem in many parts of the world. This study aimed to determine the trends and predictors of TB treatment success among children in Malaysia. **Methods:** A cross-sectional study design using secondary data from MyTB version 2.1, a national TB surveillance database was conducted. R version 3.6.1 was utilized to perform the descriptive analysis and multivariable logistic regression model. **Results:** The study analysed a total of 3550 registered TB cases among children from 2013 to 2017. Treatment success rate among children in Malaysia was 87.1% in 2013; however, the trend plateaued between 90.1 to 91.4% from 2014 until 2017. The predictors for TB treatment success were the following: being Malaysian citizens, being the children without HIV co-infection, underwent treatment in public clinics or private facilities and chest X-ray grading of no lesion or minimal lesion. Children with BCG scars and being in older age groups were also the positive predictors for TB treatment success. Children who were diagnosed with sputum-positive pulmonary TB or extrapulmonary TB were negatively associated with TB treatment success among children. The model can predict 73.39 % (AUC 95% CI: 70.15, 77.63) of the TB treatment outcome correctly according to the above predictors. **Conclusion:** The trend of TB treatment success rate among children plateaued at 90%. This study concluded that treatment success was positively associated with children who were Malaysian citizens in the mild phase of TB.

Cost-Effectiveness Analysis of a Combination Therapy Versus Monotherapy for Smoking Cessation

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ABSTRACT

Introduction: Over decades, smoking has been identified as one of the most preventable public health problems. As such, it is pivotal for research to be conducted to evaluate both the efficacy and the cost of the interventions to determine the more cost-effective treatment regime. **Methods:** A retrospective study was conducted in Kuala Lumpur Health Clinic (KKKL) where medical records of patients who attended the Quit Smoking Clinic (QSC) from January 2018 to December 2018 were evaluated. Cost estimation was done via macro and micro costing. The primary aim of this study was to evaluate the cost-effectiveness of combination therapy against monotherapy in smoking cessation program, hence providing evidence of the most effective intervention in the local setting. To predict the relationship between monotherapy and combination therapy on successful quitting, the treatment regimens were regressed on the outcome variables with a statistical significance set at a level of $p<0.05$. **Results:** A total of 213 health records were evaluated and 94.8% were mainly male and 73.7% Malays. Majority of the samples (124 participants) were provided with combined therapy (nicotine and varenicline) and 89 participants were given monotherapy (nicotine only). It was found that none of the sociodemographic variables affects the outcome of quitting except for those with higher education level having significantly higher odds of quitting compared to those in the lower education level. Overall combination therapy was more effective in aiding smoking cessation (74.2% successful rate) compared to monotherapy (34.8% successful rate). **Conclusion:** Cost- effectiveness ratio revealed that combination therapy is more cost-effective compared to monotherapy which cost per one percent successful rate was RM1,718 and RM2,095 respectively.