UNIVERSITI TEKNOLOGI MARA

DETERMINANTS OF TREATMENT SUCCESS AMONG CHILDREN WITH TUBERCULOSIS USING MyTB DATABASE VERSION 2.1 AND THEIR PARENTS' PERSPECTIVES ON SUCCESSFUL TREATMENT

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MSc

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AUTHOR'S DECLARATION

I declare that the work in this thesis was carried out in accordance with the regulations of Universiti Teknologi MARA. It is original and is the results of my own work, unless otherwise indicated or acknowledged as referenced work. This thesis has not been submitted to any other academic institution or non-academic institution for any degree or qualification.

I, hereby, acknowledge that I have been supplied with the Academic Rules and Regulations for Post Graduate, Universiti Teknologi MARA, regulating the conduct of my study and research.

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ABSTRACT

Tuberculosis (TB) among children remains a significant public health problem. The objectives of this study were to determine the determinants of TB treatment success among children and explore their parents' perspectives on achieving successful treatment. A mixed-method study design was utilised with the main study focusing on quantitative analysis of secondary data from the MyTB database version 2.1 in phase one, followed by a sequential explanatory study via in-depth interview of 15 participants in the qualitative component in phase two. Data were analysed using Microsoft Excel and R software version 3.6.1, which also contained a package for qualitative data analysis. This study obtained ethical approval from the Universiti Teknologi MARA Research Ethics Committee and the Medical Research and Ethics Committee, Ministry of Health Malaysia. The quantitative study analysed 3550 registered children with TB disease in Malaysia from 2013 to 2017. The treatment success rate among children in Malaysia was 87.1% in 2013 and plateaued around 90.1% to 91.4% from 2014 until 2017. The determinants for TB treatment success were being Malaysian citizens (adjusted odds ratio [aOR] = 3.41; 95% confidence interval [CI] = 2.46, 4.72), being the children without HIV co-infection (aOR = 3.15; 95% CI = 1.55, 6.39), underwent treatment in public clinics (aOR = 2.64; 95% CI =1.72, 4.05) or private facilities (aOR = 2.07; 95% CI =1.04, 4.12), chest X-ray findings of no lesion (aOR = 2.15 ; 95% CI = 1.46, 3.16) or minimal lesions (aOR = 2.09; 95% CI = 1.57, 2.78). Children with BCG scars (aOR = 1.93; 95% CI = 1.39, 2.68) and being in older age group (aOR = 1.06; 95% CI = 1.03, 1.09) were also associated with TB treatment success. Children who were diagnosed with sputum-positive pulmonary TB (aOR = 0.58; 95% CI = 0.43, 0.79) or extrapulmonary TB (aOR = 0.58; 95% CI = 0.41, 0.82) were negatively associated with TB treatment success. The qualitative results identified four main themes; the evidence of having contracted TB disease, trust towards the healthcare services, motivation to take or continue treatment and multiple challenges. This study concludes that the treatment success is positively associated with children who were Malaysian citizens in the mild phase of TB disease. Targeted screening and intervention to the at-risk group and giving appropriate supports to the affected family are imperative in achieving TB treatment success among children.

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