

PREVALENCE AND DETERMINANTS OF INDETERMINATE INTERFERON-GAMMA RELEASE ASSAY (IGRA) RESULTS AMONG PERSONS SCREENED FOR TUBERCULOSIS IN SEBERANG PERAI UTARA, MALAYSIA: A CROSS-SECTIONAL STUDY

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ABSTRACT

INTRODUCTION: The Interferon-Gamma Release Assay (IGRA) is widely used in screening for latent tuberculosis infection (LTBI). However, indeterminate IGRA results present a significant challenge in the diagnostic process. OBJECTIVES: This study aims to determine the prevalence of indeterminate IGRA results among persons screened for tuberculosis in Seberang Perai Utara and to identify the factors contributing to these indeterminate outcomes. METHODOLOGY: A cross-sectional study was conducted in Seberang Perai Utara, Malaysia, from January to June 2024. The study included 213 individuals who underwent IGRA testing as part of routine tuberculosis screening. The prevalence of indeterminate IGRA results was calculated, and statistical analyses were performed to identify factors associated with these outcomes. Data were sourced from a Root Cause Analysis (RCA) report. RESULTS: The study found that 3.8% (8 out of 213) of IGRA tests resulted in indeterminate outcomes, exceeding the acceptable standard of <3%. Key determinants identified include inadequate blood sampling procedures, insufficient staff training, and operational challenges during peak clinic hours. CONCLUSION: The findings highlight the need for targeted interventions to reduce the incidence of indeterminate IGRA results. Improving staff training, sampling protocols, and workflow management during peak periods is recommended to enhance diagnostic accuracy in latent tuberculosis screening.

Keywords: Indeterminate IGRA, Latent Tuberculosis Infection, Health Management, Root Cause Analysis, Diagnostic Accuracy
