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ABSTRACT

Title of Abstract : Prognostic Models for Recurrent Bacteriologically Confirmed Tuberculosis: Evidence and Applications in Malaysia

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Background : Bacteriologically confirmed recurrent tuberculosis (TB) continues to become a hurdle to TB elimination efforts. Patients experiencing recurrence face poorer treatment outcomes, higher mortality and increased risk of community transmission. Early identification of high-risk individuals for recurrence is important to support targeted surveillance, timely clinical follow-up and optimised preventive strategies. A prognostic risk score offers a systematic approach to risk-stratifying and promotes proactive intervention before disease reactivation.

Objective : To develop and validate a prognostic bacteriologically-confirmed recurrent TB risk score

Methods : Research The process will be conducted in three phases: identification of independent predictors associated with bacteriologically confirmed recurrent TB and development of the risk score, internal validation and external validation. Predictor selection and model development will be using multivariable regression techniques. Model performance will be assessed through discrimination and calibration indices and will be evaluated across phases. Methods/ Implementation

Results : This study will produce a validated bacteriologically confirmed Recurrent TB risk score tool. The parameters of sensitivity, specificity, receiver operative characteristics, will be calculated and compared to determine the performance of the tool.

Conclusion/Lesson Learned : This study will be able to identify high risk individuals prior to recurrence and has the potential to guide targeted monitoring, strengthen TB control efforts and reduce TB burden. Findings also support evidence based risk stratification for other infectious disease with recurrence potential.

Keyword : Recurrent Tuberculosis, Risk Prediction, Prognostic scores