AN APPLICATION OF STATISTICAL MODELS FOR DIAGNOSING SMEAR NEGATIVE TUBERCULOSIS – REVIEW ARTICLE

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ABSTRACT

Objective: To evaluate whether statistical models improve the diagnosis of smear negative pulmonary tuberculosis and to assess how it can be used as a tool to develop diagnostic approach in SNPT.

Methods: We searched 10 studies published before 2010 through pubmed, medline for evaluating the performance of diagnosis methods to predict tuberculosis among the patients who had negative sputum results. In this study, we identified 10 studies that included approximately 2000 patients who had symptoms of Tuberculosis and assessed the CoF several statistical models using sensitivity, specificity, positive predictive values, negative predictive values and receivers operating characteristic curve. We summarized all the results and suggested the appropriate model to clinician to diagnose the disease.

Results: Demographic characteristics, radiographic and clinical findings were determined by observed chart tables. When the several models were applied to the validation sample, we observed pooled estimates including sensitivity ranging from 37% to 90%, specificity ranging from 50% to 100%.

Conclusions: Recent evidences suggest that the prediction of smear negative tuberculosis among TB suspected individuals with latent tuberculosis infection in routine clinical and radiological methods can perform significantly better, with the help of mathematical and statistical models.

KEYWORDS: Diagnosis, whether.

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