AGREEMENT, SENSITIVITY, AND SPECIFICITY OF TUBERCULIN SKIN TEST AND T-SPOT TB EXAMINATION, IN DETECTING LATENT TB INFECTION AMONG HEALTH CARE WORKERS

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ABSTRACT

Background: Healthcare workers (HCWs) have a high risk for tuberculosis (TB) infection. Previous studies have reported that TB incidence rate among health care personnel was high. It raises a question about the effectiveness of routine occupational screening test for TB infection. T-SPOT TB test is a blood test for TB screening, also known as an interferon gamma release assay (IGRA). Likewise, tuberculin skin test (TST) has been used for TB screening. Previous studies stated that TSPOT.TB and tuberculin skin test (TST) are recomended for diagnosis of latent tuberculosis infection (LTBI). However, the reliability of both tests remains a question. This study aimed to investigate the agreement between TST and T-SPOT TB examination, and their sensitivity and specificity in detecting latent TB infection among healthcare workers.
Subjects and Method: This was a cross sectional study conducted at Dr Moewardi Hospital Surakarta, Central Java, in December 2018. A total 30 HCWs was selected for this study including 15 HCWs in the pulmonary ward and 15 administrative officers. The dependent variables were (1) Kappa agreement; (2) Sensitivity; and (3) Specificity. The screening tests under study were T-SPOT TB and TST.
Results: TST had moderate agreement with T-SPOT.TB (Kappa= 0.60; $p<0.001$). T-SPOT TB (60%) is more sensitive than TST (33.3%). TST (93.3%) is more specific that T-SPOT TB (86.7%).
Conclusion: TST has moderate agreement with T-SPOT.TB among health care workers. T-SPOT TB is more sensitive than TST, whereas TST is more specific that T-SPOT TB.

Keywords: TST, T-SPOT.TB, Kappa agreement, sensitivity, specificity, health care worker.

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