

ABSTRAK

Analisis Komparatif Pemeriksaan *Lateral Flow Lipoarabinomanan (LF-LAM)* Dibandingkan Xpert MTB/Rif Pada Pasien Tuberkulosis Paru Dengan Malnutrisi Di RSUD Dr. H. Abdul Moeloek Provinsi Lampung

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Tuberkulosis (TB) masih menjadi salah satu penyebab utama kematian di dunia dengan Indonesia menempati peringkat kedua setelah India dan estimasi 1.060.000 kasus pada 2023. TB sering terjadi pada individu malnutrisi. Di Provinsi Lampung, angka penemuan kasus baru hanya 57%, menunjukkan banyak kasus belum terdeteksi. Penelitian ini membandingkan pemeriksaan urin LF-LAM TB dan sputum Xpert MTB/RIF pada pasien terduga TB paru dengan malnutrisi di RSUD dr. H. Abdul Moeloek. Penelitian ini merupakan studi observasional komparatif dengan pendekatan cross-sectional, melibatkan 52 pasien rawat inap dan rawat jalan melalui consecutive sampling. Subjek adalah kasus baru TB paru dengan gambaran klinis dan radiologis aktif, IMT <18,5 kg/m², albumin <3,5 mg/dl, serta bersedia mengikuti penelitian yang berlangsung Januari 2023–Juni 2024.

Penelitian pada 52 pasien terduga TB paru dengan malnutrisi menunjukkan mayoritas usia >19-44 tahun (20 orang), jenis kelamin laki-laki (42 orang), memiliki kebiasaan merokok (41 orang), indeks brinkman kategori sedang (20 orang), lesi paru kategori luas (41 orang), indeks masa tubuh rendah derajat berat (30 orang) dan hipoalbumin ringan (28 orang). Hasil pemeriksaan LF-LAM TB menunjukkan tingkat positif sebesar 75%, sedangkan Xpert MTB/Rif mencapai 94,23%, dengan nilai $p = 0,002$ yang mengindikasikan perbedaan signifikan antara keduanya. LF-LAM TB memberikan hasil bermakna pada empat subkelompok, yaitu usia, indeks Brinkman, IMT, dan albumin, dengan nilai p masing-masing ($p = 0,000$), ($p = 0,000$), ($p = 0,040$), dan ($p = 0,010$). Sementara itu, Xpert MTB/Rif signifikan pada lima subkelompok, meliputi usia, kebiasaan merokok, indeks Brinkman, lesi paru, dan albumin, dengan nilai p berturut-turut ($p = 0,000$), ($p = 0,033$), ($p = 0,000$), ($p = 0,033$), dan ($p = 0,009$).

Xpert MTB/Rif terbukti lebih superior dalam mendeteksi TB paru pada pasien dengan malnutrisi dibandingkan LF-LAM TB.

Kata kunci : tuberkulosis, LF-LAM TB, Xpert MTB/Rif, diagnostik

ABSTRACT

Comparative Analysis of Lateral Flow Lipoarabinomannan (LF-LAM) Examination Compared to Xpert MTB/Rif in Pulmonary Tuberculosis Patients With Malnutrition at Dr. H. Abdul Moeloek Hospital, Lampung Province

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Tuberculosis (TB) remains one of the leading causes of death globally, with Indonesia ranking second after India and an estimated 1,060,000 cases reported in 2023. TB frequently occurs in individuals with malnutrition. In Lampung Province, the case detection rate for new TB cases is only 57%, indicating a substantial number of undiagnosed and untreated cases. This study aims to compare the diagnostic performance of urinary LF-LAM TB with sputum Xpert MTB/RIF in suspected pulmonary TB patients with malnutrition at RSUD Dr. H. Abdul Moeloek. This research is a comparative observational study using a cross-sectional approach, involving 52 inpatient and outpatient participants selected through consecutive sampling. Eligible subjects were newly suspected pulmonary TB cases with clinical and radiological features suggestive of active TB, a body mass index (BMI) of less than 18.5 kg/m², serum albumin level below 3.5 mg/dL, and who provided informed consent to participate. The study was conducted from January 2023 to June 2024.

Among the 52 suspected pulmonary TB patients with malnutrition, the majority were aged >19-44 years old (20 people), male (42 people), smokers (41 people), moderate Brinkman index (20 people), extensive lung lesions (41 people), had severely low BMI (30 people) and mild hypoalbumin (28 people). The LF-LAM TB examination showed a positive detection rate of 75%, while Xpert MTB/Rif reached 94.23%, with a p-value of 0.002, indicating a significant difference between the two tests. LF-LAM TB yielded significant results in four subgroups: age, Brinkman index, BMI, and albumin, with p-values of 0.000, 0.000, 0.040, and 0.010, respectively. Meanwhile, Xpert MTB/Rif was significant in five subgroups: age, smoking habits, Brinkman index, lung lesions, and albumin, with p-values of 0.000, 0.033, 0.000, 0.033, and 0.009, respectively.

Xpert MTB/Rif has been proven to be more effective in detecting pulmonary TB in malnourished patients compared to LF-LAM TB.

Keywords: tuberculosis, LF-LAM TB, Xpert MTB/Rif, diagnostics