

ABSTRAK

PERBEDAAN PEMERIKSAAN MIKROSKOPIS BAKTERI TAHAN ASAM METODE ZIEHL NEELSEN DAN TES CEPAT MOLEKULER DENGAN SAMPEL SPUTUM PADA PUSKESMAS GANG SEHAT KOTA PONTIANAK

Dodi Caturino¹, Khairul Bariyah¹, Nisa Julia Safarti¹
Politeknik 'Aisyiyah Pontianak

dodicaturino3@gmail.com

Latar Belakang: Tuberkulosis (TB) merupakan penyakit menular yang masih menjadi masalah kesehatan global, termasuk di Indonesia. Diagnosis dini tuberkulosis (TB) untuk menurunkan angka kesakitan dan penularan. Metode diagnosis tuberkulosis (TB) adalah mikroskopis metode *Ziehl Neelsen* (ZN) dan Tes Cepat Molekuler (TCM) *GeneXpert*.

Tujuan: Penelitian bertujuan untuk membandingkan hasil pemeriksaan *Ziehl Neelsen* (ZN) dan Tes Cepat Molekuler (TCM) pada pasien suspek tuberkulosis (TB) di Puskesmas Gang Sehat Kota Pontianak.

Metode: Penelitian secara acak desain *Random Sampling* yang memenuhi kriteria dari jumlah populasi sampel *sputum* di Puskesmas Gang Sehat Kota Pontianak. Pada bulan Desember 2024-April 2025. Sampel sebanyak 30 sputum pasien suspek TB yang memenuhi kriteria inklusi. Pemeriksaan menggunakan metode mikroskopis *Ziehl Neelsen* (ZN) dan Tes Cepat Molekuler (TCM). Analisis data menggunakan uji *Wilcoxon*.

Hasil: Pemeriksaan mikroskopis *Ziehl Neelsen* (ZN) menunjukkan 63,3% hasil negatif dan 36,7% hasil positif. Sementara pemeriksaan Tes Cepat Molekuler (TCM) menunjukkan 63,3% hasil MTB not detected dan 36,7% MTB detected (klasifikasi *low*, *medium*, dan *high*). Hasil uji *Wilcoxon* menunjukkan tidak terdapat perbedaan signifikan antara kedua metode ($p = 0,102$).

Kesimpulan: Tidak terdapat perbedaan bermakna antara hasil pemeriksaan mikroskopis *Ziehl Neelsen* (ZN) dan Tes Cepat Molekuler (TCM) dalam mendeteksi *Mycobacterium tuberculosis* pada *sputum* pasien suspek tuberkulosis (TB).

Kata kunci: Tuberkulosis, *Ziehl Neelsen*, Tes Cepat Molekuler

ABSTRACT

COMPARISON OF ACID-FAST BACILLI MICROSCOPIC EXAMINATION USING ZIEHL-NEELSEN METHOD AND MOLECULAR RAPID TEST WITH SPUTUM SAMPLES AT GANG SEHAT COMMUNITY HEALTH CENTER, PONTIANAK CITY

Dodi Caturino¹, Khairul Bariyah¹, Nisa Julia Safarti¹
Politeknik 'Aisyiyah Pontianak

dodicaturino3@gmail.com

Background: Tuberculosis (TB) is an infectious disease that remains a global health problem, including in Indonesia. Early diagnosis of tuberculosis is essential to reduce morbidity and transmission rates. Common diagnostic methods for TB in primary care services include the Ziehl-Neelsen (ZN) microscopic method and the Molecular Rapid Test (MRT) *GeneXpert*.

Purpose: This study aimed to compare the results of the Ziehl-Neelsen (ZN) method and the Molecular Rapid Test (MRT) in suspected TB patients at Gang Sehat Community Health center Pontianak city.

Methods: This was a randomized sampling study involving sputum samples that met the inclusion criteria from patients at Gang Sehat Community Health Center, conducted between December 2024 and April 2025. A total of 30 sputum samples from suspected TB patients were examined using the Ziehl-Neelsen (ZN) microscopy and the Molecular Rapid Test (MRT). Data were analyzed univariately and bivariately using the *Wilcoxon* test.

Results: The Ziehl-Neelsen (ZN) microscopic examination showed 63.3% negative and 36.7% positive results. The Molecular Rapid Test (MRT) showed 63.3% MTB not detected and 36.7% MTB detected (classified as low, medium, and high). The *Wilcoxon* test revealed no significant difference between the two methods ($p = 0.102$).

Conclusion: There was no significant difference between the Ziehl-Neelsen (ZN) microscopic examination and the Molecular Rapid Test (MRT) in detecting *Mycobacterium tuberculosis* in sputum samples of suspected TB patients. Both methods offer complementary diagnostic value and can be utilized based on laboratory facilities and patient conditions.

Keywords: Tuberculosis, Ziehl-Neelsen, Molecular Test Rapid