UNIVERSITAS
GADJAH MADA
Hubungan antara Timika Score Berdasarkan Radiografi Toraks dengan Prognosis Pasien Tuberkulosis Paru
Khairina, Prof. dr. Arif Faisal, Sp.Rad., Subsp. NKL (K), DHSM.; dr. Sri Retna Dwidanarti, Sp.Rad, Sp.Onk.Rad., Sub
Universitas Gadjah Mada, 2026 | Diunduh dari http://etd.repository.ugm.ac.id/

Hubungan Antara *Timika Score* Berdasarkan Radiografi Toraks dengan Prognosis Pasien Tuberkulosis Paru

Khairina[1]; Arif Faisal[2]; Sri Retna Dwidanarti[2]

[1]Residen Radiologi, Departemen Radiologi, Fakultas Kedokteran, Kesehatan Masyarakat, dan Keperawatan, Universitas Gadjah Mada

[2]Staf Pengajar, Departemen Radiologi, Fakultas Kedokteran, Kesehatan Masyarakat, dan Keperawatan, Universitas Gadjah Mada

INTISARI

Latar belakang: Tuberkulosis paru merupakan masalah kesehatan global dengan angka kejadian dan mortalitas tinggi. Prognosis pasien dipengaruhi faktor klinis, komorbiditas, serta derajat kerusakan parenkim paru yang dapat dinilai melalui radiografi toraks. *Timika score* merupakan sistem skoring radiologis kuantitatif yang menilai luas lesi aktif dan keberadaan kavitas, sehingga berpotensi digunakan untuk memprediksi perjalanan klinis pasien tuberkulosis paru secara sederhana.

Tujuan: Mengetahui hubungan antara *Timika score* berdasarkan radiografi toraks dengan prognosis pasien tuberkulosis paru.

Metode: Penelitian analitik observasional dengan desain kohort retrospektif pada pasien tuberkulosis paru usia 18-65 tahun yang menjalani rawat inap dan pemeriksaan radiografi toraks di RSUP Dr. Sardjito Yogyakarta periode 1 Januari-31 Desember 2024. *Timika score* dihitung dari radiografi toraks melalui pembagian paru menjadi enam zona, estimasi persentase lesi aktif, serta penambahan nilai 40 bila terdapat kavitas. Prognosis 30 hari dinilai berdasarkan mortalitas, progresivitas klinis, dan non-konversi sputum. Analisis bivariat menggunakan *Independent Sample T-test* atau *Mann-Whitney* setelah uji normalitas Kolmogorov-Smirnov.

Hasil: Sebanyak 90 orang pasien menjadi subjek penelitian ini. Median usia 52 tahun, didominasi laki-laki 61 orang (67,8%), median IMT 19,4 kg/m², dan median Hb 11,0 g/dL. Riwayat merokok ditemukan pada 63 subjek (70,0%), sedangkan hipertensi, diabetes, dan HIV masing-masing 20,0%, 13,3%, dan 13,3%. Karakteristik yang berhubungan dengan prognosis adalah IMT ($p < 0,001$), Hb ($p = 0,007$), dan hipertensi ($p < 0,001$). *Timika score* lebih tinggi pada pasien dengan mortalitas 30 hari dan progresivitas klinis 30 hari ($p < 0,001$; $p = 0,003$), tetapi tidak bermakna pada non-konversi sputum ($p = 0,230$).

Kesimpulan: Timika score berhubungan dengan prognosis pasien tuberkulosis paru, terutama mortalitas 30 hari dan progresivitas klinis 30 hari, sehingga dapat menjadi parameter radiologis tambahan untuk stratifikasi risiko dini.

Kata Kunci: *Tuberculosis, Pulmonary*; *Radiography*; *Prognosis*; *Treatment Outcome*; *Mortality*.

UNIVERSITAS
GADJAH MADA
Hubungan antara Timika Score Berdasarkan Radiografi Toraks dengan Prognosis Pasien Tuberkulosis Paru
Khairina, Prof. dr. Arif Faisal, Sp.Rad., Subsp. NKL (K), DHSM.; dr. Sri Retna Dwidanarti, Sp.Rad, Sp.Onk.Rad., Sub
Universitas Gadjah Mada, 2026 | Diunduh dari http://etd.repository.ugm.ac.id/

The Relationship Between the Timika Score Based on Chest Radiography and the Prognosis of Pulmonary Tuberculosis Patients

Khairina[1]; Arif Faisal[2]; Sri Retna Dwidanarti[2]

[1]Radiology Resident, Department of Radiology, Faculty of Medicine, Public Health, and Nursing, Gadjah Mada University

[2]Lecturer, Department of Radiology, Faculty of Medicine, Public Health, and Nursing, Gadjah Mada University

ABSTRACT

***Background**: Pulmonary tuberculosis is a global health problem with high incidence and mortality rates. Patient prognosis is influenced by clinical factors, comorbidities, and the degree of lung parenchymal damage, which can be assessed through chest radiography. The Timika score is a quantitative radiological scoring system that assesses the extent of active lesions and the presence of cavities, thus potentially being used to predict the clinical course of pulmonary tuberculosis patients in a simple manner.*

***Objective**: To determine the relationship between the Timika score based on chest radiography and the prognosis of pulmonary tuberculosis patients.*

***Methods**: This was an observational, analytical study with a retrospective cohort design in pulmonary tuberculosis patients aged 18-65 years who underwent inpatient treatment and chest radiography at Dr. Sardjito General Hospital, Yogyakarta, from January 1 to December 31, 2024. The Timika score was calculated from chest radiographs by dividing the lungs into six zones, estimating the percentage of active lesions, and adding a value of 40 for cavities. The 30-day prognosis was assessed based on mortality, clinical progression, and sputum non-conversion. Bivariate analysis used the Independent Sample T-test or Mann-Whitney test after the Kolmogorov-Smirnov normality test.*

***Results**: A total of 90 patients participated in this study. The median age was 52 years, with a male predominance (61 patients) (67.8%), a median BMI of 19.4 kg/m², and a median Hb of 11.0 g/dL. A smoking history was found in 63 subjects (70.0%), while hypertension, diabetes, and HIV were found in 20.0%, 13.3%, and 13.3%, respectively. Characteristics associated with prognosis were BMI ($p < 0.001$), Hb ($p = 0.007$), and hypertension ($p < 0.001$). The Timika score was higher in patients with 30-day mortality and 30-day clinical progression ($p < 0.001$; $p = 0.003$), but not significantly in patients with sputum non-conversion ($p = 0.230$).*

***Conclusion**: The Timika score is associated with the prognosis of pulmonary tuberculosis patients, particularly 30-day mortality and 30-day clinical progression, and therefore can be an additional radiological parameter for early risk stratification.*

***Keywords**: Tuberculosis, Pulmonary; Radiography; Prognosis; Treatment Outcome; Mortality.*