

ABSTRAK

Latar belakang : Skizofrenia adalah gangguan jiwa berat yang ditandai dengan gejala positif, gejala negatif, dan defisit kognitif. Penurunan kognitif pada skizofrenia dikaitkan dengan proses inflamasi kronis dan disregulasi sistem imun melalui aktivasi mikroglia, peningkatan sitokin pro-inflamasi, aktivasi platelet, dan disfungsi plastisitas sinaps. Biomarker hematologi sederhana seperti Platelet Limfosit Rasio (PLR) mulai banyak digunakan sebagai indikator inflamasi sistemik karena murah dan mudah diakses, tetapi belum banyak diteliti hubungannya dengan fungsi kognitif.

Tujuan : Mengetahui hubungan antara PLR dengan fungsi kognitif pasien skizofrenia

Metode : Desain penelitian ini adalah *cross sectional*. Subyek penelitian sebanyak 25 orang pasien yang terdiagnosis skizofrenia. Nilai PLR diperiksa melalui pemeriksaan darah rutin dan fungsi kognitif dinilai menggunakan kuesioner MoCA-INA.

Hasil : Tidak terdapat hubungan PLR dengan skor fungsi kognitif total (Spearman rho= -0,178; P=0,393), tetapi terdapat hubungan bermakna antara PLR dengan skor domain bahasa (Spearman rho= -0,567; P=0,003) dan hubungan (*borderline significant*) antara PLR dengan skor domain abstraksi (Spearman rho= -0,373; P=0,066). Terdapat hubungan antara usia dan pendidikan terhadap fungsi kognitif (P<0,05). Hasil uji multivariat menunjukkan bahwa usia dan tingkat pendidikan berhubungan signifikan dengan fungsi kognitif (Usia t = -4,565; P=<0,001; 95%CI -0,340 sampai -0,136, tingkat pendidikan t=3,394; P<0,003; 95% CI 2,232 – 8,333).

Kesimpulan : Dari hasil analisis data didapatkan adanya hubungan yang signifikan antara nilai PLR dengan fungsi kognitif domain bahasa. Variabel perancu yaitu usia dan pendidikan juga berhubungan signifikan dengan fungsi kognitif.

Kata kunci : *Skizofrenia, Platelet Limfosit Rasio (PLR), Fungsi kognitif.*

ABSTRACT

Background: Schizophrenia is a severe mental disorder characterized by positive symptoms, negative symptoms, and cognitive deficits. Cognitive impairment in schizophrenia has been linked to chronic inflammation and immune dysregulation through microglial activation, increased pro-inflammatory cytokines, platelet activation, and synaptic plasticity dysfunction. Simple hematological biomarkers such as the Platelet-to-Lymphocyte Ratio (PLR) have increasingly been used as indicators of systemic inflammation because they are inexpensive and readily accessible, but their association with cognitive function has not been extensively investigated.

Objective: To determine the association between PLR and cognitive function in patients with schizophrenia.

Methods: This study employed a cross-sectional design. The subjects were 25 patients diagnosed with schizophrenia. PLR values were obtained from routine blood tests, and cognitive function was assessed using the MoCA-INA questionnaire.

Results: There was no significant association between PLR and total cognitive function score (Spearman's $\rho = -0.178$; $p = 0.393$). However, a significant negative correlation was found between PLR and the language domain score (Spearman's $\rho = -0.567$; $p = 0.003$), as well as a borderline significant negative correlation between PLR and the abstraction domain score (Spearman's $\rho = -0.373$; $p = 0.066$). Age and educational level were significantly associated with cognitive function ($p < 0.05$). Multivariate analysis showed that age and educational level were independently associated with cognitive function (age: $t = -4.565$; $p < 0.001$; 95% CI -0.340 to -0.136; educational level: $t = 3.394$; $p = 0.003$; 95% CI 2.232 to 8.333).

Conclusion: The analysis demonstrated a significant association between PLR and cognitive function in the language domain. The confounding variables age and educational level were also significantly associated with cognitive function.

Keywords: Schizophrenia, Platelet-to-Lymphocyte Ratio (PLR), Cognitive function.