

## INTISARI

### KORELASI ANTARA RASIO NEUTROFIL TERHADAP LIMFOSIT (NLR) DAN SKOR DEPRESI PADA LANJUT USIA DI DAERAH ISTIMEWA YOGYAKARTA

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**Latar Belakang** : Lanjut usia merupakan kelompok umur pada manusia yang telah memasuki tahapan akhir dari fase kehidupannya, sering diwarnai dengan kondisi yang tidak sesuai dengan harapan, sehingga banyak mengalami depresi. Neutrophil-to-Lymphocyte Ratio (NLR) adalah rasio sederhana antara jumlah neutrofil dan limfosit diukur dalam pemeriksaan darah tepi. Terdapat potensi yang besar dari NLR sebagai prediktor deteksi dini gangguan depresi pada lansia.

**Tujuan** : Penelitian ini bertujuan untuk mengetahui korelasi nilai NLR terhadap skor depresi pada lanjut usia di Daerah Istimewa Yogyakarta.

**Metode Penelitian** : Jenis penelitian *observational analitik* dengan desain *cross sectional* berbasis *community-based epidemiological research*, melibatkan 60 subjek populasi lansia yang diambil secara *consecutive sampling* di Daerah Istimewa Yogyakarta pada Desember 2023 hingga Desember 2024. Data dianalisa dengan uji korelasi Spearman, serta analisa multivariat dikerjakan dengan uji Regresi Linier, analisis data dengan program SPSS versi 23 dengan tingkat kepercayaan 95%.

**Hasil** : Hasil penelitian didapatkan subjek yang mengalami gejala depresi ringan (28,3%) dan subjek dengan peningkatan nilai NLR (53,3%). Hasil uji statistik dengan uji regresi linier menunjukkan bahwa terdapat korelasi positif antara peningkatan skor GDS dan peningkatan nilai NLR ( $p=0,034$ ; koefisien regresi  $B=0,303$ ). Selain itu, variabel usia juga memiliki korelasi terhadap peningkatan NLR ( $p=0,033$ ; koefisien regresi  $B=0,076$ ).

**Kesimpulan** : Didapatkan korelasi yang lemah namun bermakna antara skor Geriatric Depression Scale (GDS) dan rasio neutrofil terhadap limfosit (NLR) pada lanjut usia di Daerah Istimewa Yogyakarta.

**Kata Kunci** : NLR, Depresi, Lansia, GDS

## ABSTRACT

### CORRELATION BETWEEN NEUTROPHIL-TO-LYMPHOCYTE RATIO (NLR) AND DEPRESSION SCORES AMONG THE ELDERLY IN THE SPECIAL REGION OF YOGYAKARTA

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**Background** : The elderly represent an age group that has entered the final stage of the human life cycle, often marked by conditions that do not meet expectations, thereby increasing the risk of depression. The Neutrophil-to-Lymphocyte Ratio (NLR) is a simple ratio between the number of neutrophils and lymphocytes measured from peripheral blood samples. NLR holds significant potential as an early predictor of depressive disorders in the elderly population.

**Objective** : This study aims to determine the correlation between the Neutrophil-Lymphocyte Ratio (NLR) and depression scores in older adults in the Special Region of Yogyakarta.

**Methods** : This study employed an analytical observational design with a cross-sectional approach, conducted within a community-based epidemiological research. A total of 60 elderly participants were recruited using consecutive sampling in the Special Region of Yogyakarta between December 2023 and December 2024. Data were analyzed using Spearman's correlation test, and multivariate analysis was conducted using linear regression. Statistical analyses were performed using SPSS version 23, with a 95% confidence level.

**Results** : The study found that 28.3% of subjects experienced mild depressive symptoms, and 53.3% had elevated NLR values. Statistical analysis using linear regression showed a positive correlation between increased GDS scores and elevated NLR values ( $p = 0.034$ ; regression coefficient  $B = 0.303$ ). In addition, age was also found to correlate with increased NLR ( $p = 0.033$ ; regression coefficient  $B = 0.076$ ).

**Conclusion** : A weak but significant correlation was found between the Geriatric Depression Scale (GDS) score and the Neutrophil-to-Lymphocyte Ratio (NLR) in older adults in the Special Region of Yogyakarta.

**Keywords** : NLR, Depression, Elderly, GDS