ABSTRAK

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HUBUNGAN ANTARA LAJU ENDAP DARAH DAN KADAR *C-REACTIVE PROTEIN* TERHADAP LANSIA DENGAN HIPERTENSI
Xvi + 47 Halaman + 10 Tabel + 7 Lampiran

Latar Belakang: Penuaan menyebabkan penurunan fungsi tubuh dan peningkatan kerentanan terhadap penyakit, termasuk hipertensi, yang sering terjadi pada lansia sebagai hipertensi sistolik terisolasi akibat perubahan pembuluh darah. Hipertensi memiliki prevalensi tinggi secara global dan nasional, terutama pada lansia dan wanita, dengan banyak kasus yang tidak terdiagnosis. Peradangan kronis tingkat rendah diketahui berperan dalam patogenesis hipertensi dan komplikasi kardiovaskular. Laju Endap Darah (LED) dan *C-Reactive Protein* (CRP) adalah penanda inflamasi yang sering digunakan, di mana CRP dianggap lebih sensitif. Penelitian mengenai hubungan antara penanda inflamasi ini pada lansia dengan hipertensi masih terbatas. **Tujuan:** Mengetahui hubungan antara laju endap darah (LED) dan kadar *C-Reactive Protein* (CRP) pada pasien lansia dengan hipertensi di Puskesmas Pucang Sewu. **Metode:** Penelitian ini menggunakan desain *cross-sectional* dengan teknik *purposive sampling*. Data primer dikumpulkan dari pasien lansia (≥60 tahun) yang terdiagnosis hipertensi di Puskesmas Pucang Sewu melalui pengukuran LED dan kadar CRP. Analisis statistik dilakukan menggunakan uji statistik, (Chi-Square) . **Hasil:** Penelitian ini melibatkan 41 pasien lansia dengan hipertensi di Puskesmas Pucang Sewu. Mayoritas responden adalah perempuan (61%) dan berada pada rentang usia 66-70 tahun (41%). Hasil pemeriksaan menunjukkan bahwa sebagian besar responden (61%) memiliki Laju Endap Darah (LED) yang tinggi, dengan rata-rata 40 mm/jam. Namun, 93% responden menunjukkan hasil *C-Reactive Protein* (CRP) negatif, dan hanya 7% yang positif. Analisis statistik menggunakan uji *Chi-Square (Fisher's Exact Test)* tidak ada hubungan yang signifikan secara statistik antara kadar LED dan CRP (p=1.000) pada kelompok lansia penderita hipertensi ini, setelah data terbukti tidak berdistribusi normal berdasarkan uji *Shapiro-Wilk.* **Kesimpulan:** Meskipun mayoritas lansia hipertensi dalam penelitian ini menunjukkan peningkatan LED, tidak ditemukan korelasi yang signifikan secara statistik antara LED dan CRP. Hal ini mengindikasikan bahwa kedua biomarker inflamasi tersebut mungkin mencerminkan aspek yang berbeda dari respons inflamasi pada kondisi hipertensi lansia. Penelitian ini terbatas pada ukuran sampel kecil dan tanpa mempertimbangkan riwayat komplikasi lain, sehingga penelitian lebih lanjut dengan sampel yang lebih besar dan cakupan yang lebih luas disarankan.

Kata kunci: Lansia, Hipertensi, Laju Endap Darah (LED), *C-Reactive Protein* (CRP)

ABSTRACT

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THE RELATIONSHIP BETWEEN EYER SEDIMENTATION RATE AND C-REACTIVE PROTEIN LEVELS IN ELDERLY HYPERTENSION
Xvi + 47 Pages + 10 Tables + 7 Appendices

Background: *Aging causes decreased body function and increased susceptibility to disease, including hypertension, which often occurs in the elderly as isolated systolic hypertension due to changes in blood vessels. Hypertension has a high prevalence globally and nationally, especially in the elderly and women, with many cases undiagnosed. Chronic low-grade inflammation is known to play a role in the pathogenesis of hypertension and cardiovascular complications. Erythrocyte Sedimentation Rate (ESR) and C-Reactive Protein (CRP) are commonly used markers of inflammation, where CRP is considered more sensitive. Research on the relationship between these inflammatory markers in the elderly with hypertension is still limited.* ***Objective:*** *To determine the relationship between erythrocyte sedimentation rate (ESR) and C-Reactive Protein (CRP) levels in elderly patients with hypertension at Pucang Sewu Health Center.* ***Methods:*** *This study used a cross-sectional design with a purposive sampling technique. Primary data were collected from elderly patients (≥60 years) diagnosed with hypertension at Pucang Sewu Health Center through ESR and CRP level measurements. Statistical analysis was performed using statistical tests, (Chi-Square).* ***Results****: This study involved 41 elderly patients with hypertension at Pucang Sewu Health Center. The majority of respondents were women (61%) and were in the age range of 66-70 years (41%). The results showed that most respondents (61%) had high Erythrocyte Sedimentation Rate (ESR), with an average of 40 mm/hour. However, 93% of respondents showed negative C-Reactive Protein (CRP) results, and only 7% were positive. Statistical analysis using the Chi-Square test (Fisher's Exact Test) showed no statistically significant relationship between ESR and CRP levels (p=1,000) in this group of elderly hypertensive patients, after the data were proven not to be normally distributed based on the Shapiro-Wilk test.* ***Conclusion:*** *Although the majority of elderly hypertensive patients in this study showed increased ESR, there was no statistically significant correlation between ESR and CRP. This indicates that the two inflammatory biomarkers may reflect different aspects of the inflammatory response in elderly hypertensive conditions. This study was limited by a small sample size and without considering the history of other complications, so further studies with larger samples and wider coverage are recommended.*

Keywords: *Elderly, Hypertension, Erythrocyte Sedimentation Rate (ESR), C-Reactive Protein (CRP)*