

PENGARUH WAKTU PENYIMPANAN SERUM TERHADAP STABILITAS C-REACTIVE PROTEIN PADA LANSIA POSITIF REMATIK

Effect of Serum Storage Time on C-Reactive Protein Stability
in Rheumatic Elderly Patients

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ABSTRAK

Latar Belakang: Pemeriksaan *C-Reactive Protein* (CRP) penting untuk menilai inflamasi pada lansia dengan penyakit rematik, tetapi hasilnya dapat dipengaruhi oleh waktu penyimpanan serum. Penelitian sebelumnya lebih banyak dilakukan pada kondisi lain, sehingga data mengenai stabilitas CRP pada serum lansia positif rematik masih terbatas. **Tujuan:** Mengetahui pengaruh variasi waktu penyimpanan serum pada suhu ruang terhadap stabilitas kadar CRP lansia positif rematik. **Metode:** Penelitian pra-eksperimen dilakukan di Laboratorium Teknologi Laboratorium Medis STIKES Wira Medika Bali pada Maret–April 2026, dengan pengambilan sampel di Panti Sosial Tresna Werdha Wana Seraya Denpasar. Populasi berjumlah 18 lansia dan diperoleh 11 sampel positif CRP melalui *purposive sampling*. Kadar CRP diperiksa secara semi-kuantitatif menggunakan metode latex aglutinasi pada 0, 6, dan 24 jam. Data dianalisis dengan uji *Shapiro-Wilk* dan *Friedman*. **Hasil:** Rata-rata kadar CRP pada pemeriksaan segera sebesar 37,09 mg/L, menurun menjadi 8,82 mg/L pada 6 jam dan 3,18 mg/L pada 24 jam. Uji *Friedman* menunjukkan perbedaan bermakna dengan $p < 0,001$. **Kesimpulan:** Lama penyimpanan serum pada suhu ruang berpengaruh signifikan terhadap penurunan kadar CRP. Pemeriksaan sebaiknya dilakukan segera atau serum disimpan pada suhu refrigerator apabila terjadi penundaan.

Kata kunci: *C-Reactive Protein*, lansia, rematik, penyimpanan serum, suhu ruang

ABSTRACT

Background: *C-reactive protein* (CRP) testing is important for assessing inflammation in older adults with rheumatic diseases, but the results can be affected by serum storage time. Previous studies have primarily focused on other conditions, so data on CRP stability in serum from older adults with rheumatic diseases remain limited. **Objective:** To determine the effect of variations in the duration of serum storage at room temperature on the stability of CRP levels in elderly patients with rheumatic conditions. **Methods:** A pre-experimental study was conducted at the Medical Laboratory Technology Laboratory of STIKES Wira Medika Bali in March–April 2026, with samples collected at the Tresna Werdha Wana Seraya Social Care Home in Denpasar. The population comprised 18 elderly individuals, and 11 CRP-positive samples were obtained through *purposive sampling*. CRP levels were measured semi-quantitatively using the latex agglutination method at 0, 6 and 24 hours. The data were analysed using the *Shapiro-Wilk* and *Friedman* tests. **Results:** The mean CRP level at the initial test was 37.09 mg/L, decreasing to 8.82 mg/L at 6 hours and 3.18 mg/L at 24 hours. The *Friedman* test revealed a statistically significant difference ($p < 0.001$). **Conclusion:** The duration of serum storage at room temperature has a significant effect on the reduction in CRP levels. Testing should be carried out immediately, or the serum should be stored in a refrigerator in the event of a delay.

Keywords: *C-reactive protein*, elderly, rheumatism, serum storage, room temperature