

PERBEDAAN KADAR ALBUMIN PASIEN SEPSIS YANG DIPERIKSA SEGERA DAN SETELAH PENGAMBILAN 14 JAM PADA SUHU RUANG 25°C

Doni Wahyu Saputro¹, Subrata Tri Widada, SKM., M.Sc²., Dra. Ida Nurhayati, M.Kes.³

^{1,2,3} Jurusan Teknologi Laboratorium Medis, Poltekkes Kemenkes Yogyakarta, Jalan Ngadinegaran MJ 3 No. 62, Mantrijeron, Kota Yogyakarta, 55141

Email : donienerjik@gmail.com

ABSTRAK

Latar belakang : Sepsis merupakan kondisi kegawatdaruratan medis yang sering terjadi pada pasien ruang intensif dan berhubungan erat dengan peningkatan angka mortalitas. parameter laboratorium yang penting pada pasien sepsis adalah kadar albumin yang berperan dalam menilai prognosis serta menentukan terapi yang tepat. Dalam praktiknya pasien sepsis yang masuk rumah sakit tidak dilakukan skrining kadar albumin dan dilakukan pemeriksaan susulan beberapa jam setelah masuk ruang intensif dengan sampel pasien saat masuk yang disimpan disuhu ruang 25°C .

Tujuan penelitian: Untuk mengetahui perbedaan kadar albumin pasien sepsis yang segera diperiksa dan setelah pengambilan 14 jam pada suhu ruang 25°C

Metode Penelitian: Penelitian ini merupakan observasional analitik dengan desain *one group pretest-posttest*. Sampel penelitian berupa 40 serum sisa pasien sepsis ruang intensif. Pemeriksaan kadar albumin diperiksa dengan metode *Bromocresol Green*. Data dianalisis secara deskriptif dan statistik dengan uji normalitas data dilakukan menggunakan uji Shapiro-Wilk, kemudian dilanjutkan dengan uji *Paired Sample T-Test*.

Hasil Penelitian: Rerata kadar albumin serum yang diperiksa segera lebih tinggi dengan setelah pengambilan 14 jam pada suhu ruang 25°C, dengan selisih 0.0525 g/dL. Hasil uji statistik menggunakan *Paired Sample T-test* menunjukkan terdapat perbedaan bermakna secara statistik ($0.001 < 0.05$). Namun demikian, berdasarkan pedoman *Clinical Laboratory Improvement Amendments* (CLIA) tahun 2025, nilai mean different sebesar 2.10 % masih berada dibawah batas *total error allowable* (Tea) albumin yaitu $\pm 8 \%$.

Kesimpulan: Serum pasien sepsis yang telah diambil selama 14 jam pada suhu ruang 25°C dapat digunakan kembali untuk pemeriksaan albumin

Kata Kunci: Kadar Albumin, Sepsis, Penyimpanan

THE DIFFERENCE IN ALBUMIN LEVELS IN SEPSIS PATIENTS MEASURED IMMEDIATELY AND 14 HOURS AFTER SAMPLE COLLECTION AT ROOM TEMPERATURE (25°C)

Doni Wahyu Saputro¹, Subrata Tri Widada, SKM., M.Sc²., Dra. Ida Nurhayati, M.Kes.³

^{1,2,3} Department of Medical Laboratory Technology
Health Polytechnic of the Ministry of Health Yogyakarta, Jl. Ngadinengaran MJ 3 No. 62, Mantrijeron,
Kota Yogyakarta, 55141

Email : donienerjik@gmail.com

ABSTRACT

Introduction: Sepsis is a medical emergency that often occurs in intensive care patients and is closely related to increased mortality rates. An important laboratory parameter in sepsis patients is albumin level, which plays a role in assessing prognosis and determining the appropriate therapy. In practice, sepsis patients admitted to the hospital are not screened for albumin levels and follow-up tests are performed several hours after admission to the intensive care unit using patient samples taken upon admission and stored at room temperature (25°C).

Purpose: To determine the difference in albumin levels between intensive care sepsis patients examined immediately and after 14 hours at room temperature (25°C).

Methods: This study was an analytical observational study with a *one-group pretest-posttest* design. The study sample consisted of 40 serum samples from intensive care patients with sepsis. Albumin levels were examined using the *Bromocresol Green* method. Data were analyzed descriptively and statistically using the Shapiro-Wilk test for data normality, followed by a *Paired Sample T-Test*.

Result: The mean serum albumin level tested immediately was higher than that tested 14 hours after collection at a room temperature of 25°C, with a difference of 0.0525 g/dL. Statistical test results using the *Paired Sample T-test* showed a statistically significant difference ($0.001 < 0.005$). However, based on the 2025 Clinical Laboratory Improvement Amendments (CLIA) guidelines, the mean difference value of 2.10% is still below the total allowable error limit for albumin, which is $\pm 8\%$.

Conclusion: Serum patients with sepsis that has been stored for 14 hours at room temperature (25°C) can be reused for albumin testing.

Keyword : Albumin, Sepsis, Storage