

INTISARI

Sugiyarti. 2023. Pengaruh Variasi Lama Penyimpanan Reagen di Dalam Alat Kimia Analyser terhadap Hasil Pemeriksaan Kadar Ureum Darah di RS DKT Slamet Riyadi Surakarta. Program Studi D4 Analis Kesehatan, Fakultas Ilmu Kesehatan, Universitas Setia Budi.

Penderita gagal ginjal di Indonesia pada tahun 2013 diperkirakan jumlahnya mencapai 499.800 penduduk. Skrining dengan pemeriksaan laboratorium darah seperti pemeriksaan kadar ureum dapat membantu deteksi dini dan diagnosis gangguan fungsi ginjal. Pemeriksaan kadar ureum membutuhkan reagen ureum. Reagen yang digunakan dalam pemeriksaan ureum memiliki waktu stabilitas yang berbeda-beda, tergantung pada dimana reagen tersebut disimpan. Penelitian ini dilakukan untuk mengetahui pengaruh variasi lama penyimpanan reagen di dalam alat kimia analyser terhadap hasil pemeriksaan kadar ureum darah.

Penelitian dilakukan menggunakan sampel darah yang diperoleh dari 14 responden dengan kriteria kadar ureum normal (10 – 50 mg/dL). Setiap sampel mendapatkan pemeriksaan kadar ureum darah sebanyak enam kali. Reagen ureum di simpan di dalam alat kimia analyser dengan suhu *tray* 2-12°C. Variasi lama penyimpanan reagen dimulai dari hari ke-1, 5, 10, 15, 20, dan 25.

Hasil dari penelitian ini menunjukkan bahwa pemeriksaan serum kontrol hingga hari ke-25 masih memenuhi persyaratan akurasi (ketepatan) dan presisi (ketelitian). Berdasarkan perhitungan statistik menggunakan uji *one-way* ANOVA diperoleh nilai $p = 0,998$ ($p > 0.05$), yang artinya tidak terdapat perbedaan bermakna diantara 6 kelompok pengukuran (hari ke-1, 5, 10, 15, 20, dan 25). Secara umum terdapat penurunan kadar ureum yang variatif dari masing-masing responden hingga hari ke-25, akan tetapi tidak memiliki perbedaan yang bermakna secara statistika, sehingga dapat disimpulkan bahwa tidak terdapat pengaruh yang signifikan antara variasi lama penyimpanan reagen di dalam alat kimia analyser terhadap hasil pemeriksaan kadar ureum darah pada penelitian setelah 25 hari.

Kata kunci : ureum, kimia analyser, stabilitas reagen

ABSTRACT

Sugiyarti. 2023. The Effect of Variations in Reagent Storage Duration in Chemical Analyzer on Blood Urea Level Examination Results at DKT Slamet Riyadi Hospital Surakarta. Bachelor's degree Program in Medical Laboratory Technology, Health Sciences Faculty, Setia Budi University.

The number of people with kidney failure in Indonesia in 2013 is estimated at 499,800 population. Screening with blood laboratory test such as examination of urea levels can help early detection and diagnosis of kidney function disorders. Examination of urea levels requires urea reagent. The reagents used in urea examination have different stability times, depending on where they are stored. This study was conducted to determine the effect of variations in reagent storage duration in the chemical analyzer on the results of examining blood ureum levels.

This study was conducted using blood samples obtained from 14 respondents with normal urea levels (10 – 50 mg/dL). Each sample received six blood ureum levels checked. Urea reagents are stored in a chemical analyzer with a tray temperature of 2-12°C. Variations in the storage duration of reagents start from days 1, 5, 10, 15, 20, and 25.

Results of this study showed that the control serum examination until the 25th day still met the requirements of accuracy and precision. Based on statistical calculations using one-way ANOVA test, a value of $p=0,998$ ($p > 0.05$) was obtained, which means that there is no significant difference between the 6 measurement groups (day 1, 5, 10, 15, 20 and 25). In general, there was a decrease in urea levels that varied from each respondent to the 25th day, but there was no statistically significant difference, so it can be concluded that there was no significant effect between variations in reagent storage duration in the chemical analyzer on the results of examining blood urea levels in the study after 25 days.

Keywords : urea, chemical analyzer, reagent stability