PERBEDAAN KADAR ALANINE AMINOTRANSFERASE (ALT) YANG DIPERIKSA MENGGUNAKAN REAGEN TANPA PENDIAMAN SUHU RUANG (2–8°C) DAN DENGAN PENDIAMAN SUHU RUANG (20–25°C)

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ABSTRAK

Latar Belakang : Reagen merupakan salah satu faktor penting dalam pemeriksaan kimia klinik. Suhu penyimpanan dan suhu saat penggunaan reagen dapat memengaruhi aktivitas enzim yang terkandung di dalamnya. Namun dilapangan masih sering ditemukan kesalahan dalam penanganan reagen sebelum digunakan. Penelitian ini bertujuan untuk mengetahui perbedaan kadar *Alanine Aminotransferase* (ALT) yang diperiksa pada dua kondisi suhu reagen.
Tujuan : Mengetahui perbedaan kadar ALT yang diperiksa menggunakan reagen tanpa pendiaman suhu ruang (suhu dingin 2–8°C) dan dengan pendiaman suhu ruang (20–25°C).
Metode : Penelitian ini menggunakan desain *posttest-only control group* dengan jumlah sampel sebanyak 36 sampel. Sampel serum yang sama diperiksa menggunakan dua kondisi reagen: reagen dingin dan reagen yang telah didiamkan pada suhu ruang. Analisis data menggunakan uji *paired sample t-test*.
Hasil : Hasil pemeriksaan kadar ALT menunjukkan rata-rata kadar ALT dengan reagen dingin sebesar 12,68 U/L dan dengan reagen suhu ruang sebesar 16,05 U/L. Hasil uji statistik menunjukkan nilai signifikansi < 0,001 ($p < 0,05$), yang berarti terdapat perbedaan yang signifikan antara kedua kondisi suhu reagen. Reagen yang digunakan pada suhu yang masih dingin menghasilkan nilai ALT yang lebih rendah.
Kesimpulan : Terdapat perbedaan yang signifikan kadar ALT antara pemeriksaan menggunakan reagen tanpa pendiaman suhu ruang dan reagen yang telah didiamkan pada suhu ruang.

Kata Kunci : ALT, Reagen, Suhu Dingin, Suhu Ruang, Pemeriksaan Kimia Klinik, Pengaruh suhu reagen

DIFFERENCES IN ALANINE AMINOTRANSFERASE (ALT) LEVELS EXAMINED USING REAGENTS WITHOUT STANDING AT ROOM TEMPERATURE (2-8°C) AND WITH STANDING AT ROOM TEMPERATURE (20-25°C)

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ABSTRACT

Background: Reagents are one of the crucial factors in clinical chemistry examinations. Both storage temperature and the temperature at the time of use can affect the activity of the enzymes contained in the reagents. However, errors in handling reagents prior to use are still frequently encountered in the field. This study aims to determine the difference in Alanine Aminotransferase (ALT) levels measured under two reagent temperature conditions.
Objective: To determine the difference in ALT levels examined using reagents that were not equilibrated to room temperature (cold temperature 2–8°C) and reagents that were allowed to stand at room temperature (20–25°C).
Methods: This study used a posttest-only control group design with a total of 36 samples. The same serum samples were tested using two reagent conditions: cold reagents and reagents that had been equilibrated to room temperature. Data were analyzed using the paired sample t-test.
Results: The ALT test results showed that the mean ALT level with cold reagents was 12,68 U/L, while with room temperature reagents it was 16,05 U/L. The statistical test showed a significance value of <0.001 ($p < 0.05$), indicating a significant difference between the two reagent temperature conditions. Reagents used at cold temperatures yielded lower ALT values.
Conclusion: There is a significant difference in ALT levels between tests using reagents that were not brought to room temperature and those that were equilibrated to room temperature.

Keywords: ALT, Reagents, Cold Temperature, Room Temperature, Clinical Chemistry Examination, Effect of Reagent Temperature