

ABSTRACT

Background: The incubation time in cholesterol testing using the CHOD-PAP method is crucial for obtaining accurate results, with a standard time of 20 minutes at room temperature. However, some health facilities often shorten the incubation time to 5 minutes for efficiency, which can affect enzyme activity and the final results.

Objective: To determine the difference in total cholesterol levels with an incubation time of 5 minutes and 20 minutes after the sample was mixed with the reagent at room temperature.

Methods: This study used a True-Experimental approach with a Post-test Only Control Group Design. The subjects were 30 leftover patient serum samples at Puskesmas Gamping 1. The data obtained from the spectrophotometer readings were analyzed using the Shapiro-Wilk normality test followed by the Wilcoxon test, and clinically evaluated using the National Cholesterol Education Program (NCEP) allowable bias standard.

Results: The average total cholesterol level with a 5-minute incubation time was 189.13 mg/dL, lower than the standard 20-minute incubation time which was 198.33 mg/dL. The results of the Wilcoxon difference test showed a *p-value* < 0.001, which means there was a difference in total cholesterol levels with an incubation time of 5 minutes and 20 minutes. Clinically, the obtained bias value (d%) was 4.64%, exceeding the maximum allowable limit set by NCEP, which is $\pm 3\%$.

Conclusion: There was a significant difference in total cholesterol levels with an incubation time of 5 minutes and 20 minutes after the sample was mixed with the reagent at room temperature.

Keywords: Total Cholesterol, CHOD-PAP Method, Incubation Time.

ABSTRAK

Latar Belakang: Waktu inkubasi pada pemeriksaan kolesterol metode CHOD-PAP sangat penting untuk mendapatkan hasil yang akurat, dengan standar waktu 20 menit pada suhu ruang. Namun, beberapa fasilitas kesehatan sering mempercepat waktu inkubasi menjadi 5 menit demi efisiensi, yang dapat memengaruhi aktivitas enzim dan hasil akhir.

Tujuan: Mengetahui perbedaan kadar kolesterol total dengan waktu inkubasi 5 menit dan 20 menit setelah sampel dicampur reagen pada suhu ruang.

Metode: Penelitian ini menggunakan jenis *True-Experimental* dengan desain *Post-test Only Control Group Design*. Subjek penelitian adalah 30 sampel serum pasien sisa pemeriksaan di Puskesmas Gamping 1. Data hasil pembacaan spektrofotometer dianalisis menggunakan uji normalitas *Shapiro-Wilk* dilanjutkan dengan uji *Wilcoxon*, serta dievaluasi secara klinis menggunakan standar bias *National Cholesterol Education Program* (NCEP).

Hasil: Rata-rata kadar kolesterol total dengan waktu inkubasi 5 menit adalah 189,13 mg/dL, lebih rendah dibandingkan waktu inkubasi standar 20 menit yaitu 198,33 mg/dL. Hasil uji beda *Wilcoxon* menunjukkan nilai $p < 0,001$, yang berarti terdapat perbedaan kadar kolesterol total dengan waktu inkubasi 5 menit dan 20 menit. Secara klinis, nilai bias (d%) yang diperoleh adalah 4,64%, melebihi standar maksimal yang diizinkan oleh NCEP yaitu $\pm 3\%$.

Kesimpulan: Terdapat perbedaan yang bermakna kadar kolesterol total dengan waktu inkubasi 5 menit dan 20 menit setelah sampel dicampur reagen pada suhu ruang.

Kata Kunci: Kolesterol Total, Metode CHOD-PAP, Waktu Inkubasi.