

ABSTRAK

Latar Belakang: Pelayanan laboratorium kesehatan melibatkan pengukuran, penetapan, dan pengujian sampel dari manusia maupun non-manusia. Untuk memastikan hasil pemeriksaan yang akurat dan mengurangi kemungkinan kesalahan, bahan kontrol digunakan untuk melacak kinerja analisis, terutama dalam hal akurasi dan presisi. Bahan kontrol ini dapat berupa pool serum, yang dihasilkan dari pengumpulan serum manusia dan diproses di laboratorium. Salah satu tantangan dalam penggunaan pool serum adalah stabilitasnya, yang dapat dijaga dengan penambahan pengawet seperti propilen glikol.

Tujuan Penelitian: Untuk mengetahui pengaruh pool serum dengan penambahan propilen glikol konsentrasi 15% terhadap stabilitas kadar trigliserida yang disimpan pada suhu $\pm -20^{\circ}\text{C}$ selama 30 hari.

Metode Penelitian: Jenis penelitian ini adalah *experimental* dengan desain *one group pre-test* dan *post-test*. Penelitian ini dilaksanakan pada awal bulan Maret 2025. Subyek penelitian ini adalah kumpulan dari serum sisa pasien dari pemeriksaan trigliserida yang memiliki hasil dalam rentang normal di Puskesmas Mergangsan. Analisis data yang diperoleh diolah secara deskriptif dan statistik menggunakan uji *Repetaed ANOVA*.

Hasil Penelitian: Rerata kadar trigliserida pada pooled serum sebelum penyimpanan (0 hari) adalah 89 mg/dl dan setelah disimpan selama 6 hari menjadi 88 mg/dL, 12 hari = 86 mg/dl, 18 hari = 83 mg/dl, 24 hari = 80 mg/dl dan 30 hari = 80 mg/dl. Uji Repeated ANOVA menunjukkan adanya perbedaan signifikan pada kadar kolesterol setelah penyimpanan selama 24 hari dan 30 hari dengan nilai 0,002 ($p < 0,02$).

Kesimpulan: Pool serum dengan penambahan propilen glikol konsentrasi 15% tidak dapat menstabilkan kadar trigliserida selama 30 hari.

Kata Kunci: Stabilitas, Pool Serum, Propilen Glikol, Trigliserida

ABSTRACT

Background: Health laboratory services involve the measurement, determination, and testing of samples from both humans and non-humans. To ensure accurate test results and reduce the possibility of errors, control materials are used to monitor the performance of analyses, particularly in terms of accuracy and precision. These control materials can be in the form of pooled serum, which is obtained by collecting human serum and processed in the laboratory. One of the challenges in using pooled serum is its stability, which can be maintained by adding preservatives such as propylene glycol.

Objective: To determine the effect of pooled serum with the addition of 15% propylene glycol on the stability of triglyceride levels stored at $\pm -20^{\circ}\text{C}$ for 30 days.

Methodology: This experimental study used a one-group pre-test and post-test design. The research was conducted in early March 2025. The subjects of this study were leftover serum samples from patients with normal triglyceride levels, collected during triglyceride tests at Mergangsan Public Health Center. The data obtained were analyzed descriptively and statistically using the Repeated ANOVA test.

Results: The average triglyceride level in pooled serum before storage (day 0) was 89 mg/dl, and after storage for 6 days it was 88 mg/dL, 12 days = 86 mg/dl, 18 days = 83 mg/dl, 24 days = 80 mg/dl, and 30 days = 80 mg/dl. The Repeated ANOVA test showed a significant difference in triglyceride levels after 24 and 30 days of storage, with a p-value of 0.002 ($p < 0.02$).

Conclusion: Pooled serum with the addition of 15% propylene glycol cannot stabilize triglyceride levels for 30 days.

Keywords: Stability, Pooled Serum, Propylene Glycol, Triglycerid