

ABSTRAK

Latar Belakang : Serum lipemik diartikan sebagai kekeruhan pada sampel yang dapat diamati secara visual. Serum lipemik dapat mengganggu pengukuran menggunakan spektrofotometer. Pengukuran yang dilakukan salah satunya kadar magnesium, dimana pada serum lipemik menghasilkan kadar tinggi palsu. Flokulasi menggunakan PEG 6000 8% dan *high speed centrifugation* merupakan langkah alternatif yang dapat digunakan untuk menangani kekeruhan pada serum lipemik. Penggunaan *high speed centrifugation* (>9.000 rpm) dapat memisahkan partikel lipoprotein dengan analit, sedangkan penambahan PEG 6000 8% dapat mengikat partikel lipoprotein dan kemudian diendapkan dengan bantuan sentrifugasi.

Tujuan Penelitian : Untuk mengetahui apakah terdapat perbedaan kadar magnesium pada serum lipemik yang ditangani menggunakan PEG 6000 8% dan *high speed centrifugation*

Metode Penelitian : Jenis penelitian yang digunakan adalah eksperimental, dengan desain penelitian *true experimental design* menggunakan rancangan *pretest-posttest control group design*. Sampel yang digunakan berjumlah 20 serum lipemik kategori rendah. Serum lipemik dibagi ke dalam dua kelompok, dengan penambahan PEG 6000 8% dan dengan *high speed centrifugation*. kemudian ketiga kelompok tersebut masing-masing diukur kadar magnesiumnya, untuk selanjutnya disajikan dalam diagram batang berupa persentase rata-rata kadar magnesium setelah penambahan PEG 6000 8% dan setelah dilakukan *high speed centrifugation*. Hasil penelitian juga dianalisis menggunakan uji statistik *Independent samples T-test*.

Hasil Penelitian : Uji statistik *Independent samples T-test* setelah penambahan PEG 6000 8% dan setelah *high speed centrifugation* menunjukkan nilai signifikansi 0,255. Rata-rata setelah penambahan PEG 6000 8% 1,80 mg/dL. Rata-rata setelah *high speed centrifugation* 1,88 mg/dL.

Kesimpulan : Tidak terdapat perbedaan kadar magnesium pada serum lipemik setelah penambahan PEG 6000 8% dan setelah *high speed centrifugation*.

Kata Kunci : PEG 6000 8%, *high speed centrifugation*, serum lipemik, kadar magnesium

ABSTRACT

Background : Lipemic serum is characterized by visible turbidity in the sample. Lipemic serum can interfere with spectrophotometer readings. One of the measures was the magnesium level, which generated an erroneously high level in lipemic serum. Flocculation with PEG 6000 8% and high speed centrifugation is another method for treating turbidity in lipemic serum. Lipoprotein particles may be separated from analytes using high-speed centrifugation (> 9,000 rpm), whereas 8% PEG 6000 can bind lipoprotein particles and subsequently precipitate with centrifugation.

Objectives : To determine whether there are changes in magnesium levels in lipemic serum treated with PEG 6000 8% and high speed centrifugation.

Methods : The research method used is experimental, using a true experimental research design employing a pretest-posttest control group design. Twenty low lipemic serum were used in the study. Before treatment, lipemic serum was separated into two groups by high speed centrifugation and the addition of 8% PEG 6000. The magnesium levels of the three groups were then measured and presented in a bar chart in the form of the average percentage in magnesium levels after the addition of 8% PEG 6000 and after high speed centrifugation. The Independent samples T-test statistical test was also used to examine the study's findings.

Result : The significant value for the independent samples T-test after adding 8% PEG 6000 and high speed centrifugation was 0.255. After the addition of 8% PEG 6000, the average was 1.80 mg/dL. After high-speed centrifugation, the average is 1.88 mg/dL.

Conclusion : There was no difference in magnesium levels in lipemic serum after adding 8% PEG 6000 and after high speed centrifugation.

Keyword : PEG 6000 8%, high speed centrifugation, lipemic serum, magnesium level