DIFFERENCES MAGNESIUM LEVELS IN SERUM OF CHRONIC RENAL FAILURE DISEASE PATIENTS EXAMINED IMMEDIATELY, AFTER STORAGE FOR 4 HOURS AND 8 HOURS AT 20-25°C

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ABSTRACT

Background: Laboratory examinations should be carried out immediately, but there are several factors that cause specimens to be stored, one of which is additional examination by the clinician. Based on research, one parameter that is often asked for additional examination is magnesium examination. Magnesium examination is one of the examinations to support the initial diagnosis of renal failure. It is important to maintain the stability of magnesium examination during sample storage by handling samples properly. **Objective:** Knowing the difference in magnesium levels in the serum of chronic renal failure patients examined immediately, after being stored for 4 and 8 hours at a temperature of 20-25 °C. **Methods:** This type of research is pre experiment with pretest-postest research design. The study population was chronic renal failure patients who routinely undergo hemodialysis at Sleman Yogyakarta Hospital. The sample amounted to 34 people. The blood samples obtained were separated from the serum and then put into 3 microtubes for immediate magnesium examination, stored 4 hours and 8 hours. Magnesium levels were examined with Cobas c311 with photometric method. The data obtained were analyzed descriptively and statistically. **Results:** The mean magnesium level examined immediately was 2.15 mg/dL, stored 4 hours 2.16 mg/dL and stored 8 hours 2.17 mg/dL. The percentage of normal magnesium levels amounted to 97.05% and high by 2.9%. The results of statistical analysis using Repeated Measure ANOVA test (Sphericity Assumed) showed p value > 0.05 (P value = 0.851). **Conclusion:** Magnesium levels in the serum of chronic renal failure patients examined immediately, after being stored for 4 hours and 8 hours at a temperature of 20-25 ° C there is no difference.

Keywords: Chronic renal failure, Sample storage, Magnesium testing

PERBEDAAN KADAR MAGNESIUM PADA SERUM PASIEN GAGAL GINJAL KRONIK YANG DIPERIKSA SEGERA, SETELAH DISIMPAN SELAMA 4 JAM DAN 8 JAM PADA SUHU 20-25°C

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ABSTRAK

Latar Belakang : Pemeriksaan laboratorium sebaiknya dilakukan segera, namun ada beberapa faktor yang menyebabkan spesimen harus disimpan salah satunya adalah pemeriksaan tambahan oleh klinisi. Berdasarkan penelitian salah satu parameter yang sering dimintai pemeriksaan tambahan adalah pemeriksaan magnesium. Pemeriksaan magnesium merupakan salah satu pemeriksaan untuk menunjang diagnosa awal gagal ginjal. Penting untuk menjaga stabilitas pemeriksaan magnesium pada saat penyimpanan sampel dengan cara penanganan sampel yang baik dan benar. **Tujuan :** Mengetahui perbedaan kadar magnesium pada serum pasien gagal ginjal kronik yang diperiksa segera, setelah disimpan selama 4 dan 8 jam pada suhu 20-25°C. **Metode :** Jenis penelitian ini adalah pre eksperimen dengan desain penelitian *pretest-postest*. Populasi penelitian adalah pasien gagal ginjal kronik yang rutin menjalani hemodialisa di RSUD Sleman Yogyakarta. Sampel berjumlah 34 orang. Sampel darah yang didapatkan dipisahkan dari serumnya kemudian dimasukkan kedalam 3 *microtube* untuk dilakukan pemeriksaan magnesium segera, disimpan 4 jam dan 8 jam. Kadar magnesium diperiksa dengan alat Cobas c311 dengan metode fotometri. Data yang diperoleh dianalisa secara deskriptif dan statistik. **Hasil :** Rerata kadar magnesium yang diperiksa segera sebesar 2,15 mg/dL, disimpan 4 jam 2,16 mg/dL dan disimpan 8 jam 2,17 mg/dL. Persentase kadar magnesium normal sebesar 97,05% dan tinggi sebesar 2,9%. Hasil analisis statistik menggunakan uji *Repeated Measure* ANOVA (*Sphericity Assumed*) menunjukkan nilai p > 0,05 (*P value* = 0,851) **Kesimpulan :** Kadar magnesium pada serum pasien gagal ginjal kronik yang diperiksa segera, setelah disimpan selama 4 jam dan 8 jam pada suhu 20-25°C tidak ada perbedaan.

Kata Kunci : Gagal ginjal kronik, Penyimpanan sampel, Magnesium