

# PENGARUH LAMA PENYIMPANAN SERUM PASIEN GAGAL GINJAL KRONIK PADA SUHU 2-8°C SELAMA 4 DAN 8 JAM TERHADAP KADAR KALIUM

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## ABSTRAK

**Latar Belakang:** Gagal ginjal kronik disebabkan oleh menurunnya kemampuan ginjal dalam menjaga keseimbangan cairan dalam tubuh. Permintaan tambahan parameter kalium setelah beberapa jam proses hemodialisa dan penyimpanan serum yang tidak dipisah dengan sel darah merah masih banyak terjadi. Hal ini bisa menyebabkan kontaminasi metabolisme oleh sel-sel hidup pada spesimen yang dapat mempengaruhi stabilitas spesimen.

**Tujuan Penelitian:** Untuk mengetahui pengaruh lama penyimpanan serum pasien gagal ginjal kronik pada suhu 2-8°C selama 4 dan 8 jam terhadap kadar kalium.

**Metode Penelitian:** Pra eksperimen dengan desain penelitian *One Group Pretest-Posttest*. Sampel pada penelitian ini menggunakan serum pasien gagal ginjal kronik sebanyak 40 sampel dengan teknik pengambilan sampel adalah *purposive sampling*. Kadar kalium pada sampel diukur menggunakan alat *Cobas C311 Analyzer* dengan metode *Ion Selective Electrode (ISE)*. Pengaruh kadar kalium dianalisa secara statistik menggunakan uji *One-Way Anova*.

**Hasil:** Rerata nilai kadar kalium serum yang segera diperiksa, setelah disimpan pada suhu 2-8°C selama 4 dan 8 jam adalah sebesar 5,284; 5,288; dan 5,293 mmol/L serta mengalami peningkatan sebesar 0,08% dan 0,17%. Hasil penelitian menunjukkan pemeriksaan kadar kalium memiliki nilai signifikansi sebesar 0,999 ( $p=0,05$ ).

**Kesimpulan:** Tidak ada pengaruh signifikan lama penyimpanan serum pasien gagal ginjal kronik pada suhu 2-8°C selama 4 dan 8 jam terhadap hasil pemeriksaan kadar kalium.

**Kata Kunci:** Serum pasien gagal ginjal kronik, Kalium, Lama penyimpanan, suhu 2-8°C

THE EFFECT OF SERUM STORAGE LONG TIME FROM CHRONIC  
KIDNEY FAILURE PATIENTS AT 2-8°C FOR 4 AND 8 HOURS ON  
POTASSIUM LEVELS

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**ABSTRACT**

**Background:** Chronic kidney failure is caused by a decrease in the kidney's ability to maintain fluid balance in the body. Requests for additional potassium parameters after several hours of the hemodialysis process and storage of serum that is not separated from red blood cells are still common. This causes metabolic contamination by living cells in the specimen which can affect the stability of the specimen.

**Porpuse:** To determine the effect of storing serum from patients with chronic kidney failure at a temperature of 2-8°C for 4 and 8 hours on potassium levels.

**Methods:** Pre-experiment with One Group Pretest-Posttest research design. The samples in this study used 40 samples of chronic kidney failure patient serum with a purposive sampling technique. Potassium levels in the samples were measured using a Cobas C311 Analyzer using the Ion Selective Electrode (ISE) method. The effect of potassium levels was analyzed statistically using the One-Way Anova test.

**Results:** The mean value of serum potassium levels that were immediately checked, after being stored at 2-8°C for 4 and 8 hours was 5.284; 5,288; and 5.293 mmol/L and experienced an increase of 0.08% and 0.17%. The results showed that examining potassium levels had a significance value of 0.999 ( $p=0.05$ ).

**Conclusion:** There was no significant effect on the storage time of serum from patients with chronic kidney failure at 2-8°C for 4 and 8 hours on the results of potassium level examination.

**Keyword:** Serum of Chronic Kidney Failure Patients, Potassium, Storage Time, Temperature 2-8°C.