

**SODIUM LEVELS IN THE SERUM OF HYPERTENSIVE
PATIENTS EXAMINED IMMEDIATELY, AFTER STORAGE
4 AND 8 HOURS AT 2-8 °C TEMPERATURE**

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ABSTRACT

Background: Additional tests are often requested for samples that are already in the laboratory. Because re-sampling adds cost and repeated pain to the patient. This makes it possible for additional laboratory examinations to use previously collected specimens, where the previous collection time has taken about 4 hours or more. In order not to change the concentration, of course, the correct storage of samples is needed, so that when conducting examinations using stored samples, the examination results can still be issued validly.

Objective: To find out the difference between sodium levels checked immediately and those stored for 4 and 8 hours at a temperature of 2-8 °C.

Methods: This type of research is a pre-experiment with a one group pretest posttest design. The research subjects were 40 patients with hypertension at Puskesmas Gondokusuman 2 using purposive sampling technique. The research was conducted in October 2023. Sodium levels were measured with the AVL 9180 Electrolyte Analyzer with the Ion Selective Electrode (ISE) method.

Results: The mean sodium level checked immediately (142.4), the mean sodium level stored 4 hours (142.33), the mean sodium level stored 8 hours (142.2). The difference between the results of the examination of serum sodium levels examined immediately and serum stored for 4 hours at a temperature of 2-8 °C is 0.05%, while the percentage difference between the results of the examination of serum sodium levels examined immediately and serum stored for 8 hours at a temperature of 2-8 °C is 0.14%. The difference in sodium levels was statistically analysed by Repeated Measure Anova test with 95% confidence level, with a significant value of 0.332 ($p \geq 0.05$).

Conclusion: There is no difference in sodium levels in the serum of hypertensive patients examined immediately and those stored for 4 and 8 hours at a temperature of 2-8 °C.

Keywords: Storage time, temperature, Sodium levels of hypertensive patients

**KADAR NATRIUM PADA SERUM PASIEN HIPERTENSI YANG
DIPERIKSA SEGERA, SETELAH DISIMPAN
4 DAN 8 JAM PADA SUHU 2-8 °C**

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ABSTRAK

Latar Belakang: Pemeriksaan tambahan sering kali diminta untuk sampel yang sudah ada di laboratorium. Karena jika dilakukan pengambilan sampel ulang maka akan menambah biaya dan memberikan rasa sakit yang berulang kepada pasien. Hal ini menyebabkan pemeriksaan laboratorium tambahan memungkinkan untuk menggunakan spesimen yang sudah diambil sebelumnya, dimana waktu pengambilan sebelumnya sudah memakan waktu sekitar 4 jam atau lebih.. Agar tidak berubah konsentrasinya tentunya diperlukan penyimpanan sampel yang benar, sehingga pada saat melakukan pemeriksaan menggunakan sampel yang disimpan hasil pemeriksaan tetap dapat dikeluarkan dengan valid.

Tujuan: Mengetahui perbedaan kadar Natrium yang diperiksa segera dan yang disimpan selama 4 dan 8 jam pada suhu 2-8 °C.

Metode: Jenis penelitian ini adalah pra eksperimen dengan desain *one group pretest posttest design*. Subjek penelitian adalah pasien penderita hipertensi Puskesmas Gondokusuman 2 sebanyak 40 orang dengan teknik *purposive sampling*. Penelitian dilakukan pada bulan Oktober 2023. Kadar Natrium diukur dengan alat AVL 9180 *Electrolyte Analyzer* dengan metode *Ion Selective Electrode (ISE)*.

Hasil: Rerata kadar Natrium yang diperiksa segera (142,4), rerata kadar Natrium yang disimpan 4 jam (142,33), rerata kadar Natrium yang disimpan 8 jam (142,2). Selisih hasil pemeriksaan kadar Natrium serum yang diperiksa segera dan serum yang disimpan selama 4 jam pada suhu 2-8 °C sebesar 0,05 %, sedangkan persentase selisih hasil pemeriksaan kadar Natrium serum yang diperiksa segera dan serum yang disimpan selama 8 jam pada suhu 2-8 °C sebesar 0,14 %. Perbedaan kadar Natrium dianalisis statistik dengan uji *Repeated Measure Anova* dengan tingkat kepercayaan 95 % didapatkan nilai signifikan 0,332 ($p \geq 0,05$).

Kesimpulan: Tidak terdapat perbedaan kadar Natrium pada serum pasien penderita hipertensi yang diperiksa segera dan yang disimpan selama 4 dan 8 jam pada suhu 2-8 °C.

Kata kunci: Waktu simpan, suhu, kadar Natrium pasien hipertensi