

ABSTRACT

Background: Sodium is the primary cation in extracellular fluid, playing a crucial role in maintaining body fluid balance and neuromuscular function.. Clinical laboratory sodium level testing typically uses serum specimens from plain Vacutainer tubes or plasma from lithium heparin Vacutainer tubes. The differences in composition between these two specimens raise the question of whether the type of tube used can affect sodium level test results.

Objective: This study aimed to determine the difference in sodium levels between the use of lithium heparin *vacutainer* and plain *vacutainer* in adult volunteers.

Methods: This study used an analytic observational design with a *cross-sectional* approach. The study sample consisted of 30 adult volunteers selected through purposive sampling. Venous blood was drawn in 5–6 cc and divided into two types of *vacutainer* tubes. Sodium levels were examined using the Diestro *Electrolyte Analyzer*. Data analysis was performed through the *Shapiro-Wilk* normality test, then continued with the *Wilcoxon* test because the data were not normally distributed.

Results: The mean sodium level in lithium heparin *vacutainer* was 137.90 mmol/L, while in plain *vacutainer* it was 138.00 mmol/L, with a mean difference of 0.10 mmol/L (0.07%). The *Wilcoxon* test showed an *Asymp. Sig. (2-tailed)* value of 0.489 ($p \geq 0.05$), indicating no statistically significant difference between the two groups.

Conclusion: There was no significant difference between sodium levels using lithium heparin *vacutainer* and plain *vacutainer*, so both types of tubes can be used interchangeably for sodium examination in clinical laboratories.

Keywords: Lithium Heparin *Vacutainer*, Plain *Vacutainer*, Sodium

ABSTRAK

Latar Belakang: Natrium merupakan kation utama cairan ekstraseluler yang berperan penting dalam menjaga keseimbangan cairan tubuh dan fungsi neuromuskular. Pemeriksaan kadar natrium di laboratorium klinik umumnya menggunakan spesimen serum dari tabung *vacutainer* plain atau plasma dari tabung *vacutainer* lithium heparin. Perbedaan komposisi kedua spesimen ini menimbulkan pertanyaan apakah jenis tabung yang digunakan dapat mempengaruhi hasil pemeriksaan kadar natrium.

Tujuan: Penelitian ini bertujuan untuk mengetahui perbedaan hasil pemeriksaan kadar natrium antara penggunaan *vacutainer* lithium heparin dan *vacutainer plain* pada responden dewasa.

Metode: Penelitian ini menggunakan desain observasional analitik dengan pendekatan *cross sectional*. Sampel penelitian sebanyak 30 probandus dewasa yang dipilih menggunakan teknik *purposive sampling*. Darah vena diambil sebanyak 5–6 cc dan dibagi ke dalam dua jenis tabung *vacutainer*. Kadar natrium diperiksa menggunakan *Electrolyte Analyzer* Diestro. Analisis data dilakukan melalui uji normalitas *Shapiro-Wilk*, kemudian dilanjutkan dengan uji *Wilcoxon* karena data tidak berdistribusi normal.

Hasil: Rata-rata kadar natrium pada *vacutainer* lithium heparin sebesar 137,90 mmol/L, sedangkan pada *vacutainer* plain sebesar 138,00 mmol/L, dengan selisih rata-rata 0,10 mmol/L (0,07%). Hasil uji *Wilcoxon* menunjukkan nilai *Asymp. Sig. (2-tailed)* sebesar 0,489 ($p \geq 0,05$), yang berarti tidak terdapat perbedaan yang signifikan secara statistik antara kedua kelompok.

Kesimpulan: Tidak terdapat perbedaan yang signifikan antara hasil pemeriksaan kadar natrium menggunakan *vacutainer* lithium heparin dan *vacutainer plain*, sehingga kedua jenis tabung dapat digunakan secara bergantian untuk pemeriksaan natrium di laboratorium klinik.

Kata Kunci: *Vacutainer* Lithium Heparin, Natrium, *Vacutainer* Plain