AKURASI, PRESISI DAN NILAI RUJUKAN ALAT *POINT OF CARE TESTING* (POCT) PADA PARAMETER ASAM URAT

ABSTRAK

Latar Belakang: Pemeriksaan asam urat merupakan salah satu parameter penting dalam evaluasi gangguan metabolisme purin, seperti gout dan hiperurisemia. Seiring dengan berkembangnya teknologi, alat *Point of Care Testing* (POCT) semakin banyak digunakan karena kemudahan, kecepatan, dan efisiensinya dalam memberikan hasil diagnostik secara langsung di lokasi pelayanan kesehatan. Namun, sebelum diterapkan secara luas, diperlukan evaluasi terhadap akurasi, presisi, dan verifikasi nilai rujukan alat POCT untuk memastikan kesesuaian hasil dengan metode standar laboratorium.

Tujuan Penelitian: Untuk Mengetahui hasil akurasi, presisi dan nilai rujukan pemeriksaan asam urat metode *Point Of Care Testing* (POCT) terhadap metode *Uricase-Peroksidase (Uricase-PAP).*

Metode Penelitian: Penelitian ini merupakan penelitian observasional analitik dengan pendekatan cross sectional. Sampel yang digunakan berupa darah vena dan serum sebanyak 40 sampel orang sehat. Data hasil peemriksaan kemudian dianalis menggunakan *microsoft exel.*

Hasil Penelitian: Hasil menunjukkan bahwa nilai inakurasi metode POCT terhadap metode *Uricase-PAP* adalah sebesar -9,01%. Pengujian presisi dilakukan melalui pemeriksaan ulang sebanyak 20 kali dan diperoleh koefisien variasi sebesar 3,8%, Verifikasi nilai rujukan dilakukan terhadap 40 sampel orang sehat, dengan hasil seluruhnya (100%) berada dalam rentang nilai rujukan yang berlaku.

Kesimpulan: Berdasarkan hasil tersebut, dapat disimpulkan bahwa alat POCT untuk pemeriksaan asam urat memiliki akurasi, presisi, dan kesesuaian nilai rujukan yang baik, sehingga layak digunakan dalam pemeriksaan laboratorium klinik.

Kata kunci: POCT, asam urat, akurasi, presisi, nilai rujukan

ACCURACY, PRECISION, AND REFERENCE VALUES OF POINT OF CARE TESTING (POCT) DEVICES FOR URIC ACID PARAMETERS

ABSTRACT

Background: Uric acid testing is one of the key parameters in evaluating purine metabolism disorders, such as gout and hyperuricemia. With technological advancements, Point of Care Testing (POCT) devices are increasingly being used due to their convenience, speed, and efficiency in providing diagnostic results directly at the point of care. However, before being widely implemented, it is necessary to evaluate the accuracy, precision, and verification of reference values of POCT devices to ensure the compatibility of results with standard laboratory methods.

Objective: To determine the accuracy, precision, and reference values of uric acid examination using the Point of Care Testing (POCT) method compared to the Uricase-Peroxidase (Uricase-PAP) method.

Method: This research is an analytical observational study with a cross-sectional approach. The samples used consisted of 40 venous blood and serum samples from healthy individuals. The examination data were then analyzed using Microsoft Excel.

Results: The results showed that the inaccuracy value of the POCT method compared to the Uricase-PAP method was -9.01%. Precision testing was conducted by repeating the test 20 times, yielding a coefficient of variation of 3.8%. Reference value verification was carried out using 40 healthy samples, all of which (100%) were within the acceptable reference range.

Conclusion: Based on the results, it can be concluded that the POCT device for uric acid testing demonstrates good accuracy, precision, and reference value conformity, making it suitable for use in clinical laboratory examinations.

Keywords: POCT, uric acid, accuracy, precision, reference values.