

ABSTRAK

Peningkatan pelayanan laboratorium kesehatan berhubungan dengan pemantapan mutu laboratorium kesehatan. Pemantapan mutu internal merupakan kegiatan pengawasan dan pencegahan yang dilaksanakan masing-masing laboratorium secara terus menerus. Penelitian ini bertujuan membandingkan serum kontrol komersial dan serum kontrol liofilisat *homemade* sebagai bahan kontrol kualitas terhadap pemeriksaan kadar BUN dan kreatinin mulai dari 1 April sampai 30 April 2023. Jenis penelitian ini deskriptif komparatif dengan pendekatan kuantitatif yang dilakukan di laboratorium kimia klinik Poltekkes Surabaya, laboratorium referensi dan Fakultas Teknobiologi Universitas Surabaya. Variabel penelitian ini adalah serum liofilisat *homemade*, serum kontrol komersial, kadar BUN dan kadar kreatinin. Bahan Uji diperoleh dari serum mahasiswa jurusan TLM Poltekkes Surabaya yang telah memenuhi syarat dan dikumpulkan dalam satu wadah kemudian diliofilisat.

Hasil penelitian parameter BUN didapatkan CV serum liofilisat *homemade* sebesar 4% dan serum kontrol komersial 5,6%. Hasil pemeriksaan parameter kreatinin didapatkan CV serum liofilisat *homemade* sebesar 3,2% dan serum kontrol komersial 3,9%. Kedua serum tersebut memiliki presisi yang baik karena tidak melebihi batas CV maksimum. Hasil Uji *Mann-Whitney* kadar BUN didapatkan nilai signifikansi 0,065 ($p>0,05$), sedangkan pada kadar kreatinin didapatkan nilai signifikansi 0,447 ($p>0,05$) yang berarti pada kedua serum dan parameter tidak terdapat perbedaan akurasi, sehingga dapat disimpulkan bahwa serum liofilisat *homemade* dapat digunakan sebagai alternatif serum kontrol komersial parameter BUN dan kreatinin. Bagi peneliti selanjutnya dapat menambahkan waktu pemeriksaan lebih dari 1 bulan.

Kata kunci : *Serum liofilisat homemade, Serum Kontrol Komersial, Kadar BUN, Kadar kreatinin, presisi dan akurasi*

ABSTRACT

Improving health laboratory services is related to strengthening the quality of health laboratories. Internal quality assurance is a monitoring and prevention activity carried out by each laboratory continuously. This study aims to compare commercial control sera and homemade lyophilisate control sera as quality control materials for examining BUN and creatinine levels from April 1 to April 30, 2023. This type of research was a comparative descriptive with a quantitative approach which was carried out in the clinical chemistry laboratory at the Surabaya Polytechnic, reference laboratory, and the Faculty of Biotechnology, University of Surabaya. The variables of this study were homemade lyophilisate serum, commercial control serum, BUN levels and creatinine levels. The test material was obtained from the serum of students majoring in TLM Poltekkes Surabaya who met the requirements and were collected in one container and then lyophilized.

The results of the BUN parameter study showed that CV of homemade lyophilisate serum was 4% and commercial control serum was 5.6%. The results of the examination of the creatinine parameter showed that the homemade lyophilisate serum CV was 3.2% and the commercial control serum was 3.9%. The two sera have good precision because they do not exceed the maximum CV limit. The results of the Mann-Whitney test for BUN levels obtained a significance value of 0.065 ($p > 0.05$), while for creatinine levels a significance value of 0.447 ($p > 0.05$) which means that for both serum and parameters there is no difference in accuracy, so it can be concluded that Homemade lyophilisate serum can be used as an alternative to commercial control serum for BUN and creatinine parameters. For further researchers can add more than 1 month of examination time.

Keywords : *Homemade lyophilisate serum, Commercial Control Serum, BUN content, creatinine level, precision and accuracy*