

ABSTRAK

Penggunaan serum liofilisat homemade pada pemeriksaan kolesterol dan trigliserida diperlukan sebagai alternatif pengganti serum komersial. Hal ini mempunyai peranan penting untuk peningkatan pelayanan pemeriksaan di Laboratorium. Penelitian ini bertujuan membandingkan akurasi dan presisi serum liofilisat *homemade* dan serum kontrol komersial terhadap parameter kolesterol dan trigliserida mulai dari 1 April sampai 30 April 2023. Jenis penelitian ini *deskriptif komparatif* dengan pendekatan *kuantitatif* yang dilakukan di laboratorium kimia klinik Poltekkes Surabaya, Fakultas Teknobiologi Universitas Surabaya, laboratorium referens, Laboratorium Pramita Surabaya. Variabel penelitian adalah serum liofilisat homemade, serum kontrol komersial, kadar kolesterol dan kadar trigliserida. Bahan uji diperoleh dari serum mahasiswa Jurusan TLM Poltekkes Surabaya yang memenuhi syarat dan diliofilisatikan.

Hasil penelitian parameter kolesterol didapatkan CV serum liofilisat *homemade* sebesar 3,32% dan serum kontrol komersial sebesar 1%. Pada parameter trigliserida CV serum liofilisat *homemade* sebesar 2,83% dan serum kontrol komersial sebesar 1%. Hasil penelitian rerata akurasi parameter kolesterol serum liofilisat homemade sebesar 6,75% dan serum kontrol komersial sebesar 5,067%. Pada parameter trigliserida rerata nilai akurasi serum liofilisat *homemade* sebesar 5,57% dan serum komersial sebesar 0,6%. Hasil analisa menggunakan Uji *Mann Whitney* pada parameter kolesterol diperoleh hasil signifikansi 0,087 ($p > \alpha$), sehingga H_0 diterima yang berarti tidak ada perbedaan akurasi *homemade* dan komersial. pada parameter trigliserida diperoleh hasil signifikansi 0,000 ($p < \alpha$), sehingga H_0 ditolak yang berarti ada perbedaan akurasi serum *homemade* dan komersial. Hasil kedua serum memiliki nilai rerata akurasi dan presisi yang berbeda tetapi masih bisa diterima karena nilai akurasi dan presisi masih dibawah batas maksimum, sehingga serum liofilisat *homemade* bisa digunakan sebagai alternatif pengganti serum kontrol komersial.

Kata kunci : serum liofilisat homemade, serum kontrol komersial, kadar kolesterol, kadar trigliserida, presisi dan akurasi

ABSTRACT

The use of homemade lyophilisate serum in cholesterol and triglyceride tests is needed as an alternative to commercial serum. This has an important role to improve examination services in the laboratory. This study aims to compare the accuracy and precision of homemade lyophilisate serum and commercial control serum against cholesterol and triglyceride parameters from April 1 to April 30, 2023. This type of research is descriptive comparative with a quantitative approach conducted in the clinical chemistry laboratory of Poltekkes Surabaya, Faculty of Technobiology, University of Surabaya, reference laboratory, Pramita Surabaya Laboratory. The study variables were homemade lyophilisate serum, commercial control serum, cholesterol levels and triglyceride levels. The test material was obtained from the serum of qualified and qualified TLM Poltekkes Surabaya students.

The results of cholesterol parameter research obtained CV homemade lyophilisate serum by 3.32% and commercial control serum by 1%. In the parameters of CV triglycerides, homemade lyophilisate serum was 2.83% and commercial control serum was 1%. The results of the study averaged the accuracy of homemade lyophilisate serum cholesterol parameter of 6.75% and commercial control serum of 5.067%. In the triglyceride parameter, the average accuracy value of homemade lyophilisate serum was 5.57% and commercial serum was 0.6%. The results of the analysis using the Mann Whitney Test on cholesterol parameters obtained a significant result of 0.087 ($p > \alpha$), so that H_0 is accepted which means there is no difference in homemade and commercial accuracy. In the triglyceride parameter, a significant result of 0.000 ($p < \alpha$) was obtained, so that H_0 was tolerated, which means there is a difference in the accuracy of homemade and commercial serum. The results of both serums have different average values of accuracy and precision but are still acceptable because the accuracy and precision values are still below the maximum limit, so homemade lyophilisate serums can be used as an alternative to commercial control serums

Keywords: homemade lyophilisate serum, commercial control serum , cholesterol levels, triglyceride levels, precision and accuracy