

ABSTRAK

Laboratorium klinik menggunakan bahan kontrol (*homemade* dan komersial) untuk memastikan ketepatan pemeriksaan. Bahan kontrol *homemade* berupa cairan dan padat beku, sementara bahan kontrol komersial adalah buatan pabrik dengan nilai rujukan yang sudah diketahui. Penelitian ini bertujuan untuk membandingkan *Variance Index Score (VIS) pooled sera*, liofilisat *homemade* dan komersial pada parameter BUN dan kreatinin.

Penelitian dilaksanakan pada bulan Desember 2023-Mei 2024 menggunakan jenis penelitian deskriptif komparatif dengan pendekatan kuantitatif. Penelitian dilakukan di 10 laboratorium klinik umum tingkat pratama dengan teknik *purposive sampling*, 2 laboratorium *reference* dan laboratorium kimia klinik Poltekkes Kemenkes Surabaya untuk menentukan *true value*, Fakultas Teknobiologi UBAYA untuk membuat liofilisat *homemade*.

Kriteria berdasarkan VIS terhadap *true value* pada *pooled sera* parameter BUN diperoleh 40% baik dan 60% cukup, kreatinin diperoleh 40% baik dan 60% cukup. Liofilisat *homemade* diperoleh 60% baik dan 40% cukup, kreatinin diperoleh 70% baik dan 30% cukup. Komersial diperoleh 80% kriteria baik dan 20% kriteria cukup, kreatinin diperoleh 90% baik dan 10% cukup. Kriteria berdasarkan VIS terhadap peserta pada *pooled sera* parameter BUN diperoleh 70% baik dan 30% cukup, kreatinin diperoleh masing-masing 50% baik dan cukup. Liofilisat *homemade* diperoleh 60% baik dan 40% cukup, kreatinin diperoleh 40% baik dan 60% cukup. Komersial diperoleh 70% kriteria baik dan 30% kriteria cukup, kreatinin diperoleh 80% baik dan 20% cukup. Hasil analisis statistika menunjukkan bahwa tidak ada perbedaan pada bahan kontrol terhadap *true value* dan peserta, sehingga bahan kontrol *homemade* dapat menjadi opsi yang layak untuk menggantikan bahan kontrol komersial yang harganya tinggi dalam proses PME.

Kata Kunci : VIS, bahan kontrol, BUN, kreatinin

ABSTRACT

Clinical laboratories use control materials (homemade and commercial) to ensure the precision of the examination. Homemade control materials are liquid and frozen solid, while commercial control materials are manufactured with known reference values. This study aims to compare the Variation Index Score (VIS) pooled sera, homemade and commercial lyophilisate on BUN and creatinine parameters.

The research was conducted in December 2023-May 2024 using a comparative descriptive type of study with a quantitative approach. The research was conducted in 10 pre-level public clinic laboratories with purposive sampling techniques, 2 reference laboratories and the Surabaya Ministry of Health Polytechnic clinic chemistry laboratory to determine true value, UBAYA Faculty of Technology to make homemade lyophilized.

Criteria based on VIS for true value in pooled BUN parameters are 40% good and 60% good, creatinine is 40% good and 60% good. Homemade lyophilisate is obtained 60% good and 40% good, creatinine is obtained 70% good and 30% good. Commercially obtained 80% of the good criteria and 20% of the good criteria, creatinine obtained 90% of the good and 10% of the good criteria. The criteria based on VIS for participants in pooled BUN parameters were 70% good and 30% sufficient, creatinine was 50% good and sufficient, respectively. Homemade lyophilisate was obtained 60% good and 40% adequate, creatinine was obtained 40% good and 60% sufficient. Commercially obtained 70% good criteria and 30% sufficient criteria, creatinine obtained 80% good and 20% sufficient. The results of statistics analysis show that there is no difference in control material with respect to true value and participants, so homemade control material can be a viable option to replace high-priced commercial control materials in the PME process.

Keyword : VIS, control materials, BUN, creatinine