ABSTRAK

Tahap pra-analitik memiliki presentase kesalahan terbesar (60-70%) bila dibanding tahap analitik (10-15%) dan tahap pasca analitik (15-18%) dalam pemeriksaan laboratorium. Kesalahan dalam tahap pra-analitik diantaranya adalah lama waktu tunda pemeriksaan dan homogenisasi sampel. Homogenisasi sampel terbagi menjadi tiga yaitu inversi (membolak balik), berbentuk angka delapan, dan menggunakan alat *blood roller mixer*. Penelitian ini bertujuan untuk melihat perbedaan jumlahan trombosit dan eritrosit pada sampel darah diperiksa, ditunda selama 30 menit dan 60 menit dengan di homogenkan secara manual dan menggunakan alat *blood roller mixer*. Jenis penelitian ini adalah eksperimen dengan menggunakan desain *cross sectional*. Populasi penelitian ini adalah mahasiswa jurusan Teknologi Laboratorium Medis Program Studi Sarjana Terapan Angkatan 2020 Politeknik Kesehatan Kemenkes Surabaya berjumlah 59 orang yang diambil secara *purposive sampling*. Penelitian ini dilakukan pada bulan Maret-April 2024. Data penelitian ini berupa data primer yang didapatkan langsung dari hasil pemeriksaan laboratorium. Teknik analisis data yang digunakan adalah uji normalitas menggunakan uji *Shapiro-Wilk,* uji homogenitas, dan uji parametrik *ANOVA Block Design*. Hasil penelitian ini menunjukkan bahwa rata-rata jumlah trombosit dan eritrosit teknik inversi lebih rendah apabila dengan alat *blood roller mixer*. Pada hasil uji *ANOVA Block Design*, menunjukkan tidak ada perbedaan antara jumlah trombosit dan eritrosit pada sampel darah yang segera diperiksa, ditunda selama 30 menit dan 60 menit dengan homogenisasiteknik inversi dan alat *blood roller mixer*.

Kata Kunci : waktu tunda pemeriksaan;teknik inversi; alat *blood roller mixer*; jumlah trombosit; jumlah eritrosit

ABSTRACT

The pre-analytical stage has the largest percentage of errors (60-70%) when compared to the analytical stage (10-15%) and the post-analytical stage (15-18%) in laboratory tests. Errors in the pre-analytical stage include the length of time delayed examination and sample homogenization. Sample homogenization is divided into three, namely inversion (back and forth), forming a figure eight, and using a blood roller mixer. This study aims to determine the difference in the number of platelets and erythrocytes in blood samples that are immediately examined, delayed for 30 minutes and 60 minutes by homogenizing manually and using a blood roller mixer. This type of research is an experiment using a cross sectional design. The population of this study were students majoring in Medical Laboratory Technology, Applied Undergraduate Study Program, Class of 2020, Health Polytechnic, Ministry of Health Surabaya, totaling 59 people who were taken by purposive sampling. This research was conducted in March-April 2024. This research data is primary data obtained directly from laboratory examination results. The data analysis technique used was normality test using Shapiro-Wilk test, homogeneity test, and ANOVA Block Design parametric test. The results of this study indicate that the average platelet and erythrocyte counts of the inversion method are lower when compared to the blood roller mixer method. In the results of the ANOVA Block Design test, there was no difference between the number of platelets and erythrocytes in blood samples that were examined immediately, delayed for 30 minutes and 60 minutes by homogenizing the inversion method and the blood roller mixer tool.

Keywords **:** *examination delay time; inversion method; blood roller mixer tool; platelet count; erythrocyte count*