

## ABSTRACT

The Erythrocyte Sedimentation Rate (ESR) can be done automatically or manually. This study aims to analyze the effect of delaying the erythrocyte sedimentation rate with the automatic method and the modified Westergren method with a delay of 0 hours, 3 hours and 6 hours. This type of research is a laboratory observation with a completely randomized design. The study population was patients who did a medical check-up to check the erythrocyte sedimentation rate at the Ultra Medica Ponorogo Clinical Laboratory. The sample in this study was taken by purposive sampling with the criteria of patients aged 20-50 years. The specimen used is venous blood provided that it uses EDTA Plasma. The research was conducted at the Ultra Medica Ponorogo Clinical Laboratory. The study was conducted in December 2021 – June 2022. The dependent variable in this study was the erythrocyte sedimentation rate. The independent variable in this case is the examination of 0 hours, 3 hours and 6 hours using the modified Westergren method and using the automatic method. The study found that the average erythrocyte sedimentation rate using the automatic method at 0 hours examination obtained an average of 10.73 mm/hour, a 3-hour delay of 11.40 mm/hour and a 6-hour delay of 10.20 mm/hour. . The average erythrocyte sedimentation rate using the modified Westergren method on immediate examination was 18.07 mm/hour, 3 hours delay was 22.60 mm/hour and 6 hours was 17.47 mm/hour. The results of the analysis showed that there was no effect of delaying the examination of the erythrocyte sedimentation rate with the automatic method and the modified Westergren method.

**Key words :** erythrocyte sedimentation rate, examination delay, automatic, Westergren