

ABSTRACT

Rida Meiliana, NIM : 1534036, The different number of *Staphylococcus aureus* colonies on *Plate Count Agar* media treated at pH 6, 7 and 8. Bachelor Thesis. Medical Analysis Study Program, Faculty of Medical Science, Universitas Katolik Musi Charitas Palembang.

Background: The bacteria that often cause infection are *Staphylococcus aureus* bacteria. Laboratory examination is conducted to determine the type of microorganism using culture or regrow techniques. The media used to regrow the microorganism are *Plate Count Agar* (PCA). Some hospitals and laboratory practices do not do pH measurements when preparing the culture media. However, the influence of pH interferes with the bacterial growth in establishing a diagnosis of the disease.

Method: This research is a true experiment with the Posttest control study design. This research was conducted at the Microbiology Laboratory of the Musi Charitas Catholic University of Medical Science Palembang. The inoculum culture media of *Staphylococcus aureus* is adjusted to the MacFarland standard of 0.05 then diluting to 10². Inoculation culture media is then adjusted at pH 6, 7, and 8 and incubated at 37°C. After 24 hours, the colony numbers of *Staphylococcus aureus* are calculated. The obtained data is then analyzed using the Repeated Anova Test.

Result: The average colony numbers of *Staphylococcus aureus* grown on Plate Count Agar at pH 6, 7, and 8 are 59 CFU/μL, 69 CFU/μL, and 60 CFU/μL, respectively. The statistical analysis using the Repeated Anova Test obtains p values of 0.000 with a significant two-way level ($\alpha=0.05$), resulting in p-value $<\alpha$.

Conclusion: There is a significant difference in the numbers of *Staphylococcus aureus* colonies in Plate Count Agar Media with the different pH of culture media in pH 6, 7, and 8.

Keywords: *Plate Count Agar*, pH 6, pH 7, pH 8, *Staphylococcus aureus*