

## ABSTRACT

### COMPARATIVE EFFECTIVENESS OF SURGERY INSTRUMENT STERILIZATION METHOD BETWEEN THE OVEN TEMPERATURE 160<sup>0</sup> C / 120 MINUTES, TEMPERATURE 180<sup>0</sup> C / 20 MINUTES AND METHODS AUTOCLAVE STEAM AS GOLD STANDARD GENERAL HOSPITAL IN HAJI SURABAYA

**DJUMADI PURNOMO**

The population in this study is the Surgical Instruments, data processing: after the data is collected, the data processing is done, Editing, Coding, Entry, tabulation, and Dry subsequently processed in the form of a table data analysis: Statistical analysis using a 95% significance level ( $\alpha = 0.05$ ), and using computerized program spss .

Results of normality test data do not show a normal distribution, then the analysis is done with non-parametric approach, using a comparison test between the two groups of samples, so since there are 3 groups of the sample (temperature) then there are 3 combinations of comparison, the oven temperature of 160<sup>0</sup>C to 180<sup>0</sup>C oven, oven temperature of 160<sup>0</sup>C to 121<sup>0</sup>C steam autoclave and oven temperature of 180<sup>0</sup>C to 121<sup>0</sup>C steam autoclave. Statistical test used is the Mann Whitney test.

160<sup>0</sup>C temperature comparison with 180<sup>0</sup> C temperature, Mann Whitney test results obtained p value of 0.001, when using  $\alpha$  0.05 then we can conclude p value ( $0.001 > 0.05$ ), meaning that the temperature of 160<sup>0</sup>C for 120 minutes with a temperature of 180<sup>0</sup>C for 20 minutes there is a significant difference.

160<sup>0</sup>C temperature comparison with 121<sup>0</sup> Mann Whitney test obtained p value of 0.003, when using  $\alpha$  0.05 then we can conclude p value ( $0.003 > 0.05$ ), meaning that the temperature of 160<sup>0</sup>C for 120 minutes with a steam autoclave temperature of 121<sup>0</sup>C for 30 minutes there is a significant difference.

180<sup>0</sup>C temperature comparison with 121<sup>0</sup> Mann Whitney test results obtained p value of 0.001, when using  $\alpha$  0.05 we can conclude p value ( $0.001 < 0.05$ ), meaning that the temperature of 180<sup>0</sup>C for 120 minutes with a steam autoclave temperature of 121<sup>0</sup>C for 30 minutes there is a significant difference

Based on the statistical analysis of the number of colony growth at different temperatures between 160<sup>0</sup>C oven temperature for 120 min, oven temperature 180<sup>0</sup>C for 20 min with 121<sup>0</sup> temperature steam autoclave for 30 minutes, there were significant differences at different temperatures between the same oven.

**Keywords:** Surgical instruments, sterilization oven, autoclave steam sterilizer, bacillus stearothermophilus