

ABSTRACT**THE EFFECT OF ETHANOL EXTRACT OF SOURSOP LEAF (*Annona muricata* L.) ON GROWTH INHIBITION AND STRUCTURE CHANGE OF BACTERIA CELL WALL *Acinetobacter baumannii***

Uswatun Hasanah

This research is to prove the antibacterial effect of soursop leaf extract on *A.baumannii* bacteria in vitro, to find out the correlation of giving phased concentration of soursop leaf extract on the inhibition of *A.baumannii* bacterial growth in vitro, and to find out the change of the cell structure of *A.baumannii* bacteria in giving the extract of soursop leaf. Extraction of soursop leaf with maceration method and ethanol dissolvent 96%. The data analysis of antibacterial effect of soursop leaf on growth inhibition of *A.baumannii* was ANOVA test with standard error of 5%, the correlation of giving phased concentration of soursop leaf extract on the growth inhibition of *A.baumannii* used Pearson correlation, and the results of SEM analysis was explained descriptively. The test result of antibacterial showed that the extract of soursop leaf had antibacterial activity on *A.baumannii* bacteria with MIC at concentration 2×10^4 $\mu\text{g/ml}$. There was correlation between giving phased concentration of soursop leaf extract and growth inhibition of *A.baumannii* bacteria where the higher the concentration of the extract, the fewer the number of the bacteria colony. The morphology of *A.baumannii* bacteria in concentration 0 $\mu\text{g/ml}$ showed normal *A.baumannii* bacterial cell with cocobasil shape. In concentration $0,5 \times 10^4$ $\mu\text{g/ml}$, the bacterial cell morphology in cocobasil shape with smaller size than that of control concentration. In concentration 1×10^4 $\mu\text{g/ml}$, some of the bacterial cells were in lysis and the size became smaller again. In concentration $1,5 \times 10^4$ $\mu\text{g/ml}$, most of the bacterial cells were smaller than other concentrations. Meanwhile in concentration 2×10^4 $\mu\text{g/ml}$, it was suspected that the antibacterial activity of soursop leaf extract could lysis the bacterial cell so that there was no bacterial growth in SEM analysis.

Keywords: *A.baumannii*, *Annona muricata* L., antibacterial activity, MIC, SEM.