

ABSTRACT

Andriani , Lita. 2014. **The Potential Antimicrobial Extract Soursop Leaf (*Annona muricata* L.) to Methicillin- Resistant *Staphylococcus Aureus* (MRSA) Bacteria by Using *In Vitro***. Final Project, Midwifery Program, University of Brawijaya. Advisors: (1) Prof. Dr. dr. Santoso Sanarto DTM & H. Spmk (K). (2) Dr . dr . Retty Ratnawati . M.Sc.

The uncontrolled use of antibiotics will result resistant cases. *Methicillin – Resistant Staphylococcus Aureus* (MRSA) is a bacterium that is resistant to β - lactam antibiotics including methicillin, penicillin, oxacillin and amoxillin and causes serious health problems. Soursop leaf (*Annona muricata* L.) contains active ingredients alkaloids, flavonoids, saponins, tannins, triterpenoids which are potentially as antimicrobial. This study aims to determine the potency of extract soursop leaf antimicrobial characteristics to prevent MRSA bacteria by using *in vitro*. This study was a laboratory experimental research using a *posttest only control*. The sample of study was MRSA collected from bacteria stock cultures belonging to the laboratory of Microbiology, Faculty of Medicine, University of Brawijaya. The examination of antimicrobial effect was done by using dilution test, *tube dilution test*. The repetition was done four times using six different types of treatments for the concentration of extract soursop leaf (*Annona muricata* L.). They are 5 %, 10 %, 15 %, 20 %, 25 % and 30 %. The results showed that Minimum Concentration could not be determined, while Minimum Killing Concentration of MRSA bacteria were at concentration 30 %. By using ANOVA statistical test, the significance was ($p < 0.05$). In conclusion, extract soursop leaf can be used as antimicrobial against methicillin-resistance *Staphylococcus aureus* (MRSA) bacteria using *in Vitro* at concentration 30%.

Keywords: soursop leaf (*Annona muricata* L.), antimicrobial, *Methicillin-Resistant Staphylococcus Aureus* (MRSA)