

ABSTRACT

EFFECTIVITY OF COCAO RIND ETHANOL EXTRACT IN INHIBITING STREPTOCOCCUS PYOGENES GROWTH *IN VITRO*

Cynthia Dwi Ramadhania, Medical Faculty of Airlangga University, Surabaya, Indonesia.

Streptococcus pyogenes is extracellular, positive gram bacteria that colonize on throat or skin and very potential in causing infections. The most common infection is pharyngitis, scarlet fever, impetigo, and streptococcal toxic like syndrome. Group A Streptococcus is known to be sensitive to Penicillin G, but has developed and becomes resistant to clindamycin, and macrolide drugs, such as, erythromycin, azithromycin, clarithromycin, and tetracycline. Cacao rind has known to have several active compounds such as alkaloid and flavonoid that have antibacterial activity. This laboratory experimental study was done to prove the antibacterial activity in ethanol extract of cacao rind (*Theobroma cacao* L.) on *Streptococcus pyogenes*. The bacteria as sample had been tested and obtained from *Balai Besar Laboratorium Kesehatan* in Surabaya. The experiment was done with dilution method by using ethanol extract of cacao rind in 100%, 50%, 25%, 12,5%, 6,25%, 3,125%, dan 1,56% concentration. Bacteria and extract are diluted and incubated for 24 hours in 37°C. This experiment can not show the Minimum Inhibitory Concentration (MIC) because the extract was so dark that could not be compared with the controlled tube. So this experiment could only determine the Minimum Bactericidal Concentration (MBC) by growing the tube suspensions from broth dilution test on blood agar plate. This experiment was done in four time replications. The result of this experiment showed that the MBC of cacao rind ethanol extract on *Streptococcus pyogenes* is 12,5%.

Keywords: *Streptococcus pyogenes*, *Theobroma cacao* L., ethanol extract, antimicrobial, dilution test.