ABSTRACT

Staphylococcus aureus is a normal flora of the human body that can be pathogenic and cause a health problems, such as the skin and respiratory tract. One of the virulence factors of *Staphylococcus aureus* is its ability to form biofilm. *Staphylococcus aureus* biofilm have been shown to cause an increase in the number of case of infectious diseases and antibiotic resistance. The use of traditional ingredients as medicine is currently popular among the people of Indonesia, one of which is the roselle plant (*Hibiscus sabdariffa*). Roselle plant contains various of secondary metabolites such as phenols, flavonoids, alkaloids, tannins, and organic acids. One of type of flavonoid, quercetin, has been shown to suppress the expression of the agrA gene so that the quorum sensing process during biofilm formation can be inhibited. The purpose of this study was to determine the ability of ethanolic extract of roselle (*Hibiscus sabdariffa*) in inhibiting the formation of *Staphylococcus aureus* biofilm. This type of research is experimental laboratory (true experimental) with a post test only control group design in vitro. The data collection technique was carried out by measuring the OD (Optical Density), after adding the various concentration of roselle ethanol extract to *Staphylococcus aureus* biofilm, using an ELISA reader. The results showed different optical density (OD) at each increase in concentration. Statistical analysis showed differences in the value of inhibition of OD biofilm at various concentrations of roselle *(Hibiscus sabdariffa*) ethanolic extract. The conclusion of this study is the ethanolic extract of roselle (*Hibiscus sabdariffa*) has the ability to inhibit the formation of *Staphylococcus aureus* biofilm. The optimum concentration of ethanolic extract of roselle (*Hibiscus sabdariffa*) in inhibiting *Staphylococcus aureus* biofilm is 20 mg/mL.

Keywords: Roselle extract (*Hibiscus sabdariffa*), *Staphylococcus aureus*, biofilm