

Antimicrobial Activity of *Hibiscus sabdariffa* Calyx Extract against *Shigella dysenteriae* in vitro

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Abstract

Each year, 80 million cases of bacillary dysentery is found. It causes 700,000 deaths worldwide. Bacillary dysentery due to *Shigella dysenteriae* infections show the most severe clinical symptoms and become epidemic on wide areas. In Indonesia, it began to be a reemerging disease. Meanwhile, there is emerging drug resistance of *Shigella dysenteriae* to several drugs which are originally used to cure its infection such as co-trimoxazole. Extracts of *Hibiscus sabdariffa* calyx is known to have antimicrobial activity against several strains of bacteria. Therefore, the researcher conducted a study of the antimicrobial activity of *Hibiscus sabdariffa* calyx extract against *Shigella dysenteriae*. This study determines the antimicrobial potential of *Hibiscus sabdariffa* calyx extract against *Shigella dysenteriae*. *Hibiscus sabdariffa* calyx were extracted with methanol and divided into 6 concentrations. Antimicrobial activity assay performed with the dilution method in Mueller Hinton broth medium. The result of this research is *Shigella dysenteriae* did not grow in all tubes with extract concentration of 0.5 ml/ml up to 0.03 ml/ml and negative control tubes. *Shigella dysenteriae* grew in tubes containing the extract of *Hibiscus sabdariffa* with concentration of 0.015 ml/ml and positive control tubes. It can be concluded that extract of *Hibiscus sabdariffa* calyx extract have antimicrobial activity against bacteria *Shigella dysenteriae* at minimum concentration of 0.03 ml / ml.

Keywords: antimicrobial, *Hibiscus sabdariffa* calyx extract, *Shigella dysenteriae*