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

Rengganis Prastami Mumpuni\(^1\), Eddy Bagus Wasito\(^2\), Ratna Sofaria Munir\(^3\)

\(^1\)Faculty of Medicine, Airlangga University, Surabaya
\(^2\)Department of Microbiology, Faculty of Medicine, Airlangga University, Surabaya
\(^3\)Department of Pharmacology and Pharmacy, Faculty of Medicine, Airlangga University, Surabaya

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*