Phytochemical and antimicrobial activities of different solvent extracts of *Hibiscus sabdariffa*

ABSTRACT

The use of plant extracts and phytochemicals with known antimicrobial properties is becoming commonplace worldwide and gaining great significance for therapeutic uses. Thus, the purpose of the present study is to investigate the effects of numerous extraction solvents (hexane, ethyl acetate, ethanol) on the phytochemical constituents and antimicrobial activities of *Hibiscus sabdariffa*. Phytochemical screening for saponins, tannins, flavonoids, phenolic and alkaloid compounds revealed that the ethanol and ethyl acetate extracts of *Hibiscus sabdariffa* contained all the aforementioned phytochemical constituents, for theexception of tannins and alkaloids that were absent in the ethyl acetate extract. Interestingly, the hexane extract did not affordsuch constituents. The ethanol extract exhibited stronger inhibitory activity against *Bacillus subtilis* (B29), *Staphylococcusaureus* (S276), *Staphylococcus epidermis* (S273), *Pseudomonas aeruginosa* (ATCC 15442) and *Escherichia coli* (E266) than ethyl acetate extract, but the difference was less evident for the hexane extract of *Hibiscus sabdariffa* which inhibitedonly *B. subtilis*, as determined by the paper disc method. Base on the findings, it can be construed that the ethanol and ethylacetate extracts of HS have prospective applications as antimicrobial agent as well as one of the sources of therapeutically useful products.

Keywords: *Hibiscus sabdariffa*; Phytochemical; Antimicrobial activity