ABSTRACT

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APPLICATION OF ANTIBACTERIAL ACTIVITY FROM “GREEN TEA” KARUK LEAVES ETHANOLIC EXTRACT AND HONEY AS ACUTE RESPIRATORY TRACT INFECTION (ARTI) RELIEVER BEVERAGE
(xvi + 101 pages: 34 figures, 15 tables, and 19 appendices)

Karuk (Piper sarmentosum) leaves extract has been reported to have antibacterial activity against S. aureus and P. aeruginosa. This research aims to determine extraction time to extract karuk leaves “green tea” that produce the highest antibacterial activity and determine the suitable concentration of extract and honey applied as beverage. Karuk leaves “green tea” is macerated with food grade ethanol (1, 3, 5, and 7 days) and the antibacterial activity will be analyzed by agar well diffusion method to S. aureus and P. aeruginosa. The best extraction time will be used for comparing “green tea” extract with dried leaves and fresh leaves extract. Extraction time and Minimum Bactericidal Concentration (MBC) from “green tea” extract will also be used to determine beverage formulation based on “green tea” extract (1 MBC, 2 MBC, 3 MBC, and 4 MBC) combined with honey (6, 8, 10, and 12%). The result showed that extraction time caused significant different (p<0.05) of Minimum Inhibitory Concentration (MIC) and Minimum Bactericidal Concentration (MBC) value. Extract with 3 days extraction time has the lowest MIC and MBC against S. aureus and P. aeruginosa. “Green tea” extract also has the lowest MIC and MBC than dried leaves and fresh leaves extract. The best combination from “green tea” extract and honey is 2 MBC “green tea” extract mixed with 10% honey because its inhibitory zone is greater than 6 mm and most preferred by panelists.

Keywords: antibacterial activity, green tea, honey, karuk leaves, maceration