

Antimicrobial activity and phytochemical analysis of *Azadirachta Indica* (neem) and *Clinacanthus Nutans* (snake grass) leaves extract

Abstract

Azadirachta indica (*A. indica*) and *Clinacanthus nutans* (*C. nutans*) is a traditional medicinal plant with a great medical impact on bacteria inflammation. They are few studies for the phytochemical and antimicrobial were conducted for both types of plants. Phytochemical analysis was performed using classical colorimetric methods, which is the folin-Ciocalteu method and aluminum chloride precipitation were employed for quantitative of total phenolic content (TPC) and total flavonoid content (TFC). Meanwhile, antioxidant activity was estimated by DPPH scavenging value. Antimicrobial activity was determined by using the agar well diffusion method against *Escherichia coli* (*E. coli*) and *Staphylococcus aureus* (*Staphy. aureus*). The methanol crude extract of *A. indica* and *C. nutans* showed low content of phenolic, 1.65 mg GAE/g, 0.18 mg GAE/g; flavonoid content is 43.56 mg QE/g and 26.07 mg QE/g respectively for both extracts. Meanwhile, the percentage of scavenging activity is 87.13% and 34.90% for *A. indica* and *C. nutans*. Regarding the antimicrobial activity, the *A. indica* extract inhibits the growth of target bacteria with a minimum inhibitory concentration of 31.25 mg/ml for both strains and almost no inhibitory concentration for *C. nutans*. Hence, aim this study is to determine two local plant varieties as a source of antimicrobial agents by used soxhlet extraction method.