



Antimicrobial Activities of *Streblus Asper* Leaves Extract in Thailand

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ABSTRACT

Introduction: *Streblus asper*, or toothbrush tree, has been traditionally used as a medicinal plant for toothache and dental caries treatments.

Objective: This study aimed to investigate antimicrobial activities of *S. asper* leaves ethanolic extracts in Thailand.

Methods: *S. asper* leaves were washed, dried and ground to powdered, then exhaustively extracted with 95% ethanol using Soxhlet extraction. Antimicrobial activity including determined zone of inhibition, determination of minimum inhibitory concentration (MIC), determination of minimum bactericidal concentration (MBC) and minimum fungicidal concentration (MFC) were determined, as according to Clinical & Laboratory Standards Institute guidelines. The extract was done against 10 tested microorganisms including, *Staphylococcus aureus*, *Bacillus cereus*, *Streptococcus mutan*, *Enterobacter aerogenes*, *Enterococcus faecalis*, *Escherichia coli*, *Klebsiella pneumoniae*, *Pseudomonas aeruginosa*, *Candida albicans* and *Candida glabrata*.

Results: *S. asper* leaves extract at 200 mg/ml showed an inhibition zone against tested microorganisms, except *Pseudomonas aeruginosa*, ranging from 7.00 to 11.00 mm. The leaves extract had inhibitory and microbicidal capacity at concentration of $\geq 2,000 \mu\text{g/ml}$, except *Staphylococcus aureus* and *Streptococcus mutan* had good inhibitory and microbicidal capacity at concentration of 125 and 250 $\mu\text{g/ml}$, respectively.

Conclusion: *S. asper* leaves extract had good activities on oral pathogen bacteria, its leaves extract could be beneficial as an oral hygiene product.

Keywords: *Streblus asper*; clear zone; MIC; MBC; MFC