



Evaluation of *Orthosiphon stamineus* Aqueous Extract for *In Vitro* Antimycobacterial Activity and its Interaction with Isoniazid

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SUMMARY. In addition to a number of traditional medicinal uses, recently the consumption of leaves of *Orthosiphon stamineus* infusion (*Misai kuching Tea* and *Java Tea*) has gained popularity in many countries such as Malaysia, Indonesia and Thailand. The plant is known to have antioxidant activities and some constituents possessing antimycobacterial activity, hence may have interaction with isoniazid (INH), an anti-TB drug acting through free radicals. Therefore, the present study aims to investigate a standardized aqueous extract of the plant and some of its fractions for antimycobacterial activity and to evaluate potential interaction with INH. Using HPLC, total contents of betulinic, oleanolic and ursolic acids in the extract, hexane (HF), chloroform (CF) and ethyl acetate fractions (EA) were found to be 0.016, 0.62, 0.183 and 0.00 mg/g, respectively. In antimycobacterial assays, the minimum inhibitory concentrations (MICs) of the extract, HF, CF and INH were found to be 25.00, 3.12, 6.25 and 0.39 $\mu\text{g/mL}$, respectively. The combinations of the extract as well as the fractions with INH -in various proportions- exhibited fractional inhibitory concentration index (FICI) > 0.5 and ≤ 4 , which indicated no statistically significant interaction. The results of the present study indicate that aqueous extracts of the plant have no significant interaction with INH.

KEY WORDS: Aqueous extract, Antimycobacterial, Interaction, Isoniazid, *Orthosiphon stamineus*, Standardization.

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