THE INHIBITORY POTENTIAL OF ETHANOLIC LEAF EXTRACTS OF SELECTED PHILIPPINE ENDEMIC PLANTS ON ALPHA-AMYLASE ACTIVITY

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ABSTRACT

The present study aims to investigate the inhibitory potential of ethanolic leaf extracts of selected Philippine endemic plants such as *Kibatalia macgregorii* (Elmer) Woodson*, Cynometra ramiflora* L.*, Petersianthus quadrialatus* (Merr.) Merr.*, Calophyllum inophyllum* L.*,* and *Milettia ahernii* on the α-amylase activity. The quantitative phytochemical analyses of plant extracts using UV-Vis Spectrophotometer revealed that the phenolic (10.56 mg GAE/g), flavonoid (58.91 mg QE/g), alkaloid (7.03 mg CE/g) were significantly higher in *Millettia ahernii, Cynometra ramiflora* L.*,* and *Petersianthus quadrilatus* (Merr.) Merr. respectively. The high value of half maximal (IC_{50}) concentration exhibited by the extracts, as compared to Acarbose, suggests that these extracts have potentials as a mild inhibitor of the α-amylase activity, which is desirable to prevent some of the side effects produced by synthetic drugs. Moreover, ethanolic leaf extracts are viable alternatives to pharmaceutical inhibitors of α-amylase activity due to the presence of phytochemical components such as phenolic, flavonoids, and alkaloids. The results of this study could be useful for developing an alternative and accessible source of medicine for treatment and prevention of diabetes mellitus.

Key Words: Philippine endemic plants, α-amylase activity, percent inhibition, half maximal concentration (IC_{50}), hyperglycemic activity

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