

COMPARATIVE EVALUATION OF PHYTOCHEMICAL CONSTITUENTS IN LEAVES OF FOUR SELECTED MEDICINAL PLANTS

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Diabetes mellitus is a major epidemic worldwide. The anti-diabetic activity of medicinal plants is due to the presence of phytochemicals and other ingredients which demonstrate hypoglycemic activity. Some individuals prefer traditional medicines for diabetes as they believe these have fewer side effects. The present study analysed the phytochemical constituents in leaves of four selected medicinal plants: *Murraya koenigii*, (Curry leaf) *Tinospora cordifolia* (Moonseed), *Enicostemma axillare* (Indian whitehead) and *Gymnema sylvestre* (Cow plant), known for their anti-diabetic properties. The leaves of medicinal plants were collected, and their identification was authenticated at the National Herbarium, Royal Botanic Gardens Peradeniya. The shade dried leaves were powdered and extracted with ethanol using the cold extraction technique. The ethanolic extracts of each medicinal plant leaf powder were used to detect the presence of phytochemicals. The total phenolic, tannin and flavonoid contents were evaluated by the colourimetric method. Tannin, saponins, alkaloid, glycosides, steroids, phenols and coumarins were found in leaf extracts of all plants. Terpenoids, quinone and anthraquinones were only found in *M. koenigii* and *E. axillare*. Total phenoli contents (mg GAE/g) varied from 325.60 ± 23.84 (*T. cordifolia*) to 1960.70 ± 66.88 (*M. koenigii*), Flavonoid contents (mg GAE/g) ranged from 15.03 ± 1.42 (*T. cordifolia*) to $22.270.86$ (*E. axillare*). The total tannin content (mg/ml) of all four varieties is almost similar (1.24 ± 0.01). Higher alkaloid content was found in *M. koenigii* ($19.42 \pm 0.26\%$). This study revealed that the ethanolic extract of leaves of all plant species contains basic phytochemicals, and *M. koenigii* is richer with important phytochemicals, followed by *E. axillare*. Therefore, *Enicostemma* and *Murraya* species can be used as nutraceuticals in traditional medicine.

Keywords: *Enicostemma axillare*, Leaves, Medicinal Plants, *Murraya koenigii* Phytochemicals