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Evaluation of total phenolic, flavonoid contents and *in vitro* antioxidant activity of different solvent extracts obtained from *Canna* (red) flowers grown in Sri Lanka

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The aim of the present study was to evaluate total phenolic, flavonoid contents and *in vitro* antioxidant activity of four different solvents [acidified 70% aqueous acetone (AAD), 70% aqueous acetone (AD), acidified 80% aqueous methanol (AMD) and 80% aqueous methanol (MD)] extracts obtained from *Canna* (red) flowers. The crude extracts were prepared by steeping method in the dark conditions from oven dried *Canna* (red) flowers collected from Galle district in Sri Lanka. The freeze dried powders of crude extracts were subjected to preliminary phytochemical tests. The total phenolic and flavonoid contents and *in vitro* antioxidant activity of the four different extracts were evaluated by Folin-Ciocalteu assay, aluminium chloride colorimetric method and 2,2-diphenyl-1-picrylhydrazyl (DPPH) assay respectively. The results of the preliminary phytochemical screening exhibited the presence of phenolic compounds, flavonoids, quinones, carbohydrates, reducing sugars and saponins and absence of alkaloids in all four extracts. The results of the total phenolic content of the four different extracts were 5389.067±681.343 (AAD), 4172.308±333.424 (AD), 4624.662±255.258 (AMD) and 4195.533±342.593 (MD) mg Gallic acid equivalent (GAE)/100 g dry weight (DW) of flowers. Total flavonoid content of the four different extracts were 6017.442±158.343 (AAD), 3023.633±450.899 (AD), 2973.658±233.448 (AMD) and 2205.822±379.418 (MD) mg Catechin equivalents (CAE)/100 g DW of flowers. Antioxidant capacity of the four different extracts were 17.430±2.673 (AAD), 15.401±2.452 (AD), 16.512±1.440 (AMD) and 14.752±3.154 (MD) mmol Trolox equivalents/100 g DW of flowers. The results indicated that acidified 70% aqueous acetone extract of *Canna* (red) contains significantly high total phenolic and flavonoid contents as well as promising antioxidant activity.

Keywords: Antioxidant activity, canna, total favonoid content, fotal phenolic content

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