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Naturally sourced bioactives potential to combat oxidative stress and reduce the risk of chronic diseases; Case study Sri Lanka, Edible flowers

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Edible flowers have been used traditionally for culinary purposes as well as in phytotherapy. Recently they have gained renewed interest as a potential source of bioactives. In Sri Lanka though certain edible flowers have been used in cooking as well as in Ayurveda, their bioactive potential has not been fully investigated. This study aims to evaluate the content of bioactives and antioxidant capacity of selected edible flowers in Sri Lanka. Unexplored and underutilized edible flowers with health potential were selected and random sampling was done for the study. Extracts of eight edible flowers were analysed for total phenolic content (TPC), total flavonoid content (TFC) and total carotene content (TC). Antioxidant capacity was evaluated using DPPH radical scavenging assay, ferric reducing power (FRAP) and inhibition of lipid peroxidation. The highest TPC and TC was noted in the extracts of *Vinca rosea* (337.17±0.31µmol gallic acid equivalents/g of dry weight [DW]) and *Cassia auriculata* (525.81±0.25 µmol β carotene/g DW) respectively. Highest TFC, ferric reducing power and inhibition of lipid peroxidation was demonstrated by the extracts of *Calendula officinalis.* Considering the DPPH radical scavenging ability the highest and lowest percentage of inhibition was noted in the extracts of *Tamarindus indica* and *Vinca rosea* respectively. The present work reveals that the studied flowers are quite good sources of bioactives with promising antioxidant capacity. This could be used to combat oxidative stress which is identified as the major cause for the initiation and progression of inflammation and cell proliferation.

Key words: *Antioxidant activity, bioactives, edible flowers*

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