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**Total phenolic content and antioxidant activity of the water extract of *Semecarpus parvifolia* (Heen badulla)**

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Most of the oxidative stress related diseases including cardiovascular, neurodegenerative and inflammatory diseases and cancer are as a result of accumulation of free radicals in the body. Thus research studies are being conducted worldwide to find natural antioxidants of plants origins. Plant-derived extracts are used as remedies for those diseases in traditional medicine. Water extract of *Semecarpus parvifolia* leaves has been prescribed in traditional medicine for the treatment of cancer for many years. This study was designed to investigate the phenolic content and antioxidant properties of the freeze dried powder of the aqueous extract of *Semecarpus parvifolia*. The total phenols and flavonoid contents were quantified by the Folin–Ciocalteu method and the aluminum chloride colorimetric method respectively. Free radical scavenging activity was measured by DPPH assay and non-site specific deoxyribose assay was used to quantify the hydroxyl radical scavenging activity. The results were compared with L-ascorbic acid and gallic acid respectively. Griess nitrile assay was used to assess the nitric oxide radical scavenging activity. The reducing power of the lyophilized samples was determined by total reduction capability by  $\text{Fe}^{3+} - \text{Fe}^{2+}$  transformation and compared with L-ascorbic acid. The mean  $\pm$  SD values of the total phenols and flavonoid content of the leaf extract (n=9) were  $1.67 \pm 0.84$  w/w% gallic acid equivalents and  $46.87 \pm 1.64$  w/w % (-)-epigallocatechin gallate equivalents respectively. The  $\text{EC}_{50}$  values (n = 9) for DPPH, hydroxyl radical and nitric oxide scavenging assays were  $26.70 \pm 7.48$ ,  $33.72 \pm 3.88$  and  $442.63 \pm 93.84$   $\mu\text{g ml}^{-1}$  respectively. The reducing power of the leaf extract was linearly increased with the concentration (500-1200  $\mu\text{g ml}^{-1}$ ). However, the values found for the respective concentrations were lower than that of ascorbic acid. These results suggest that flavanoid and phenols present in *Semecarpus parvifolia* leaves may be responsible for its antioxidant activity.