

## ANTIOXIDANT AND ANTI-INFLAMMATORY POTENTIAL OF THE AQUEOUS EXTRACT OF THE PEEL OF A SRI LANKAN VARIETY OF NEPHELIUM LAPPACEUM LINN

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Despite the advances in modern medicine, plant based remedies play an important role in healthcare due to low side effects. Free radicals are implicated in many diseases as well as in aging. The peel of *Nephelium lappaceum* Linn. (rambutan) is considered a waste and this study involves the determination of antioxidant capacity and anti-inflammatory activity of the aqueous extract of the peel of a Sri Lankan variety of rambutan; Malwana special. The aqueous extract was prepared according to the method of "kasaya" preparation in Ayurvededic medicine and the freeze-dried product was used for the investigations. The 2,2-diphenyl-1-picrylhydrazyl (DPPH) radical scavenging activity, hydroxyl radical scavenging activity, iron reducing power and human red blood cell (HRBC) assay were carried out according to previously published methods with slight modifications. The DPPH radical scavenging activity of the sample

ranged between 3.9%-64.5% for concentrations of 10-500  $\mu\text{g/ml}$  whereas ascorbic acid showed values between 6.5%-96.4%. The hydroxyl radical scavenging activity of the sample was between 10.3%-35.0% for concentrations from 1000-1500 ppm and ascorbic acid gave values between 22.6%-51.1%. The extract showed a good reducing power in the Fe<sup>3+</sup> reducing assay. HRBC assay showed protection of 17.1%-34.8% for concentrations ranging from 35.5-250.0 ppm whereas aspirin protection (%) varied from 32.3%-54.5%. Total phenolic content was 463.5 $\pm$ 5.2 mg (PGE)/g and total flavonoid content was 375.0 $\pm$ 13.2 mg (QE)/g. (PGE = pyrogallol equivalence, QE = quercetin equivalence). These results show that the peel of Malwana special rambutan has the potential to be used as an antioxidant and for its anti-inflammatory activity.

**Keywords:** *Nephelium lappaceum*, Antioxidant, Anti-inflammatory, HRBC