

## ***In vitro* Screening of Total Phenolic Content, Flavonoid Content and Antioxidant Capacity of Soups Prepared by Commercially Available Traditional Rice Varieties in Sri Lanka**

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Rice (*Oryza sativa*) is one of the major staple foods in the world. Sri Lankans also consume rice soups (Bath kenda in Sinhala language) as a nutritional and medicinal supplement by boiling rice with water. Although there were studies carried out on the phytochemicals and antioxidant activity in the Sri Lankan traditional rice varieties (TRV) upto-date there were no studies reported on phytochemical content and antioxidative properties of the rice soups prepared from TRVs. Thus, the objective of the present study is to evaluate the antioxidant capacity, total phenolic content (TPC) and the total flavonoid content (TFC) of the boiled rice soups prepared from commercially available TRVs. A percentage of 80% methanolic extracts were prepared from the water fraction separated from the boiled rice seeds of four TRVs named as Kuruluthuda(KT), Kalu Heenati(KH), Pachcha Perumal(PP) and Neeroga(RB). Percentage yield of the methanolic extract of four rice soups KT, KH, RB and PP were 0.18%, 0.15%, 0.24% and 0.21% respectively. Antioxidant capacity was evaluated using 1,1- diphenyl-2-picryl-hydrazyl (DPPH) radical scavenging (n=3) assay. TPC was determined using folin-ciocalteu reagent based spectrophotometric method (n=3) while Aluminium Chloride based colorimetric assay (n=3) was used to evaluate the TFC. Mean radical scavenging activity against DPPH was in the range of IC<sub>50</sub> 60 - 433 ug/ml and the order of mean radical scavenging activity was KT> PP > RB> KH. Mean TPC was in the range of 4.9± 0.40 - 7.3 ± 0.21 mg GA/g (Gallic Acid/g) while order according to the means of TPC was PP>KT>KH>RB. The mean TFC was in the range of 3.1 ± 0.20 - 5.7 ± 0.24 mg EGCG/g (epigallocatechin gallate)/g) and the ascending order according to the means of TFC was KT>NB>PP>KH. Results revealed that there is a bioactivity in rice soup of TRVs but need to be carried out on further research on the bioactivity of the soups prepared by commercially available traditional rice varieties in Sri Lanka.

**Keywords:** Traditional rice; Antioxidant assay; DPPH; Flavanoid; Phenolic content