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Screening of Antioxidant Capacity of *Pouteria campechiana* (Kaha laulu), *Psidium guineense sw* (Ambulpera) and *Aegle marmelos* (Beli) Fruits

DMHSK Doranegoda[1], S de Silva[1], FASS Pillay[1], RGPT Jayasooriya[2], KW Samarakoon[3], and KDKP Kumari[4#]

[1]Faculty of Graduate Sciences, General Sir John Kotelawala Defence University, Ratmalana, Sri Lanka

[2]Faculty of Technology, Rajarata University of Sri Lanka, Mihintale, Sri Lanka

[3]Institute for Combinatorial Advanced Research and Education, General Sir John Kotelawala Defence University, Ratmalana, Sri Lanka

[4]Faculty of Allied Health Sciences, General Sir John Kotelawala Defence University, Ratmalana, Sri Lanka

[#]krishanthi.peshala@kdu.ac.lk

Abstract

Antioxidants are important as therapeutic agents in preventing a wide range of human pathologies associated with oxidative stress. Due to certain drawbacks in synthetic antioxidants, the attention is focused on the discovery of natural antioxidants. The present study was aimed to compare the antioxidant potential of different extracts of three selected underutilized fruit crops available in the North Central Province of Sri Lanka. The fruit carp of *Pouteria campechiana* (Kaha laulu), *Psidium guineense sw* (Ambulpera) and *Aegle marmelos* (Beli) were extracted in ethanol by maceration. Then the dried crude extracts were subjected to solvent partition with hexane and ethyl acetate. Water fraction of the extracts were obtained by freeze-drying. A concentration gradient (0.0625, 0.125, 0.25, 0.5, 1.0 mg/ml) of crude extracts and the resulting fractions was screened for free radical scavenging activity by DPPH assay. Ascorbic acid was used as the positive control. All three crude extracts and the majority of fractions exhibited a dose-dependent free radical scavenging activity. The maximum activity shown by crude extracts of *P. campechiana*, *P. guineense sw* and *A. marmelos* were 40.33 ± 0.6%, 65.67 ± 0.23% and 63.83 ± 0.94% respectively. Hexane fraction of *P. campechiana*, *P. guineense sw* and *A. marmelos* showed highest scavenging activity of 15.94 ± 0.82%, 26 ± 0.94% and 11.91 ± 1.29% respectively. The maximum activity exerted by Ethyl acetate fractions was 92.22 ± 0.34%, 84.17 ± 0.16% and 88.72 ± 0.25% for *P. campechiana*, *P. guineense sw* and *A. marmelos* respectively. The highest activity exhibited by aqueous fractions of *P. campechiana*, *P. guineense sw* and *A. marmelos* were 30.66 ± 0.23%, 62.58 ± 1.06% and 52.41 ± 1.76% respectively. The results of the present study revealed that all three tested fruit carp extracts possess considerable antioxidant capacity. Among them ethyl acetate fraction exerted maximum activity reflecting their suitability to apply for the development of antioxidant food supplements in future.

Keywords: *Antioxidants, Radical scavenging, Pouteria campechiana, Psidium guineense sw, Aegle marmelos*