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Antioxidant activity in aqueous extracts of fruit of *Phyllanthus emblica* stored for six months at room temperature and at 4°c using 1, 1- diphenyl-2-picrylhydrazyl (dpph) assay

T. Kumutharanjan*

[1]Unit of Siddha Medicine, University of Jaffna, [2]Department of Biochemistry, Faculty of Medicine, University of Peradeniya, [3]Department of Biochemistry, Faculty of Medicine, University of Jaffna
**tkumutharanjan@yahoo.com*

Free radicals contribute to more than one hundred disorders in humans including atherosclerosis, arthritis, and ischemia reperfusion injury of many tissues, central nervous system injury, gastritis, cancer and AIDS. Human bodies protected from oxidative damage of free radicals through some complex defense systems, which are called antioxidants. The objective of this study was to evaluate the antioxidant activity of the fruits of *Phyllanthus emblica.* The cold and hot extracts obtained from the powder of *Phyllanthus emblica* were stored at room temperature (37^0 C) and at 4 ° C in monthly interval for six months. The free radical scavenging off fruits of *Phyllanthus emblica* extracts evaluated by DPPH assay according to the method described by Blois (1958). The absorbance measured at 517nm with uv- vis spectrophotometer .The initial Total Anti-oxidant Capacity (TAC) of cold and hot water extracts IC 50 values were 17.8, 14.1 µg/ml dry weights respectively. When the powder was stored at room temperature for a month and the TAC was analyzed, the cold and hot water extracts contained IC 50 value 29.9 24.41 µg/ml dry weight respectively. TAC of cold and hot water extracts contained IC 50 value of 240.1,188.1, µg/ml dry weight respectively, when the powder was stored at room temperature for 6 months, while the TAC of cold and hot water extracts of the *Phyllanthus emblica* powder stored at 4°C for six months respectively IC 50 values were 209.5, 163.1 µg/ml dry weight. Extraction of antioxidant activity was better with hot water than with cold water. When compared with the cold extracts, hot extracts contained higher DPPH radical scavenging activity. DPPH radical scavenging activity was retained better at 4°C than at room temperature. DPPH radical scavenging activity decreased with the storage period at both temperatures, but the decrease in DPPH radical scavenging activity was higher at room temperature than at 4°C.This study showed that the *P. emblica* powder could be used for 'Chooranam' preparation immediately after the preparation of the *P. emblica* powder.