

A Study of Phytochemical, Antioxidant & Ethnopharmacological survey of *Garcinia* fruit

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Gastrointestinal diseases (GDs) have been a cause of concern mostly in the rural parts of developing countries worldwide. Assam is predominantly inhabited by tribal people and they are primitive indigenous communities and most of them are also socio-economically backward. These people have been traditionally using natural medicine for the curing of different diseases instead of allopathic medicines. In this study, we have tried to scientifically enumerate the ethnomedicinal use of *Garcinia pedunculata* Roxb. (Family: Clusiaceae) (GP) fruit in six different districts of Assam of the Northeast region of India. The present study was also undertaken to investigate the antioxidant and phytochemical properties of *Garcinia pedunculata* (GP) fruit. Antioxidant activity of the extract of GP has been investigated employing *in vitro* methods i.e. DPPH, H₂O₂ radical scavenging activity, reducing power activity, *in vitro* lipid peroxidation, etc. Antifungal activity was evaluated by agar well diffusion method and mineral content was estimated by atomic absorption spectrophotometer (AAS). A significant amount of total phenolics (TP) (5.87±0.06 mg catechin equivalents/g) and the total flavonoids (TF) (3.69±0.04 mg quercetin equivalents/g) were found in the extracts of GP along with potential free radical scavenging activity viz. DPPH (IC₅₀=3.53±0.04 µg/mL) and H₂O₂ (IC₅₀=1.4±0.02 µg/mL). Moreover, it is also considered an indicator of greater reducing power. The extract of also prevented *in vitro* LPO (IC₅₀= 42±0.01µg/mL) significantly. The antifungal activity of GP extracts was found to be effective against some human dermatophytes. The detection of higher concentrations of K and Fe is another important finding of this investigation. Due to different social and environmental adversities, the plant has been subjected to near extinction. As such it needs a specific strategy to increase the cultivation/plantation of the valuable plant on a priority basis.

Keywords: Gastrointestinal diseases (GDs), *Garcinia pedunculata*, Assam, ethnomedicine, Northeast India.