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Elemental composition, phytochemical content and *in vitro* antioxidant activity of fenugreek micro, baby and mature greens

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Tropical vegetables are a source of readily available vitamins, minerals and health-promoting phytochemicals. The last two decades have seen a renewal of interest in fresh and novel vegetables such as microgreens and baby greens. The nutrient and phytochemical composition of the vegetables is expected to vary across stages. However, comparative study across growth stages is limited. Thus, the objective of the present study was to assess the elemental composition (Ca, Fe, Mg, Zn P, K, Na and Se), phytochemical content (ascorbic acid, lutein, chlorophyll and total polyphenol) and *in vitro* antioxidant activity (DPPH radical scavenging activity (RSA) and FRAP) of microgreens, baby greens and mature greens of fenugreek, one of the commonly consumed tropical leafy vegetable. The estimated daily intake (EDI) and the nutrient contribution (% RDA) were also computed for the greens. Fenugreek mature greens were found to contain higher concentrations of most minerals than baby and microgreens, except Zn and Se which were highest in microgreens. Microgreens also had higher ascorbic acid, total polyphenols, DPPH RSA and FRAP values compared to baby and mature greens. The phytochemical pigments, lutein and chlorophyll content were comparatively higher in fenugreek mature leaves as compared to micro and baby greens. The mineral contribution (% RDA) followed the order: Mature greens>microgreens>baby greens. The ascorbic acid contribution for microgreens was significantly higher ($P<0.05$) (134% RDA) compared to the other two greens. Thus, for a nutritionally wholesome diet, fenugreek microgreens can be used along with mature greens for daily sustenance.

Biography

Manjula Devi Ghoora has completed BSc in Plant Sciences from the University of Mauritius and MSc in Food Technology from Sri Sathya Sai Institute of Higher Learning, India. She is currently pursuing her Doctoral studies in the Department of Food and Nutritional Sciences at SSSIHL. She has completed 2 Internships in renowned research institutes in Mauritius and has followed several academic courses. She has presented 5 papers in national conferences/seminars and has 2 international publications.

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