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Nutrient and Phytochemical Composition of Centella asiatica Leaves

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Abstract

Centella asiatica is an herbaceous plant commonly known as Gotu Kola and belongs to Apiaceae family. It is found in most tropical and subtropical countries growing in swampy areas. It is a tasteless, odourless plant and it is traditionally used for the treatment of a wide variety of disorders. Its leaves and roots are used as vegetables and for medicinal purposes. Knowledge of their contributions to human nutrition and contents of bioactive components is lacking and has limited their use. Therefore this study evaluated the Nutrients content and phytochemical composition of Centella asiatica leaves using standard methods. The result of proximate composition revealed moisture (13.10 ± 1.07%), ash (16.5 ± 0.45%), protein (8.35 ± 1.28%), lipid (1.20 ± 0.10%), fiber (17.00 ± 1.87%) and carbohydrate (43.81 ± 0.70%) contents. Physicochemical result revealed Saponification value of 238.43 mg/KOH. Fatty acid composition revealed a high concentration of palmitic acid (55.70%) as saturated and Linoleic acid (17.50%) as unsaturated fatty acids; while amino acid composition showed high level of glutamate (13.389 g/100 g) as nonessential and Histidine (11.64 g/100 g) as essential amino acids respectively. The phytochemical composition revealed the presence of bioactive compounds such as; Proanthocyanin (11.964 µg/g), Rutin (11.8883 µg/g), Nanngenin (3.0122 µg/g),Quinine (10.4490 µg/g), Flav-3-ol(2.5900 µg/g), Spartein (3.0122 µg/g), Phenol (18.8713 µg/g), Flavonones (2.1836 µg/g), Steroids (18.8974 µg/g), Kaempferol (0.7273 µg/g), Phytate (1.6851 µg/g), Naringenin (2.7523 µg/g), Resveratol (10.8596 µg/g), Tannin (4.4377 µg/g) and Ribalinidine (3.0500 µg/g). The presence of these nutrients and bioactive phytochemicals in Centella asiatica leaves makes them useful in pharmaceutical and food industries.

Keywords: Nutrients; Phytochemical composition; Centella asiatica; Leaves

Reference: Letter: An unconventional legume--Prosopis cineraria Gupta MC, Gandhi BM, Tondon BN. American Journal of Clinical Nutrition 1974;17: 1035-1036.