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Antioxidant Properties of Flavoured Ceylon Black Tea Consumer Packs

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Abstract

Ceylon tea is reported to have numerous health benefits. However, limited studies have evaluated health benefits of Ceylon flavoured teas. This study examined the antioxidant properties (AP) of ten flavoured black teas (Broken Orange Pekoe Fannings: BOPF grade) namely cardamom, earl grey, apple, lemon, ginger, exotic chai, peach, raspberry, cherry and mixed fruit teas. Non-flavoured black tea (BOPF) served as the control. Total Polyphenolic Content (TPC), Total Flavonoid Content (TFC), Ferric Reducing Antioxidant Power (FRAP) and DPPH & amp; ABTS radical scavenging activities were used to study the AP (n = 3 each). Results showed significant differences (P<0.05) among the samples and compared to control for the tested AP. TPC, TFC, FRAP, DPPH and ABTS AP of tested teas ranged from 204.07 4.12 - 120.58 6.65 mg GAEs/g of extract, 57.40 0.60 - 26.19 0.29 mg QE/g of extract, 389.31 2.27 - 269.26 5.6434 mg TEs/ g of extract, 3995.22 103 .47 - 2287.36 10.32 mg TEs/ g of extract and 3300.07 13.82 - 2350.16 35.34 mg TEs/ g of extract respectively. Interestingly, cardamom tea exhibited significantly ($p < 0.05$) high TPC (204.07 ± 4.12 mg GAEs/g of extract) and TFC (57.40 ± 0.60 mg TEs/ g of extract) while raspberry tea and non flavoured black tea showed the highest FRAP compared to all the tested teas. The DPPH radical scavenging activity was highest in ginger tea and non flavoured black tea while ABTS radical scavenging activity was highest in non flavoured black tea. It is concluded that flavouring could either enhanced or reduced the AP of BOPF grade flavoured Ceylon black tea consumer packs.

Keywords: *Flavoured tea, Ceylon tea, Black tea, Antioxidant properties*