Antioxidant Activity of Mixed Fruit Juice Added of Lutein and Epigallocatechin Gallate

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Fruits and vegetables are sources of antioxidant compounds, being the antioxidant property attributed to the presence of flavonoids and carotenoids. This study aimed to determine the antioxidant activity of mixed fruit juice (mango, guava and acerola) added with lutein and epigallocatechin gallate. Also, two methods of antioxidant extraction were evaluated: (M1) based on carotenoid extraction using acetone as extractor solvent; and (M2) based on the use of methanol (50%) and acetone (70%) as extractor solvent. The base mixed juice contained 35% of fruit pulp (13.65% mango, 18.20% guava and 3.15% acerola). From the base mixed juice four treatments were formulated: (F1) 14 mg of lutein/L of juice, (F2) 125.02 mg of epigallocatechin gallate/L of juice; (F3) a mixture of lutein (14 mg/L) with epigallocatechin gallate (109.98 mg/L) and (F4) control, mixed juice without phyto-chemicals. The determination of total antioxidant activity was done by the capture of ABTS (+) free radicals method. The results showed different values for tested extraction methodologies. F3 mixed juice presented the highest antioxidant activity, with values of 8.73 μM trolox/g of juice (determined by M1) and 7.10 μM trolox/g of juice (determined by M2). The smallest antioxidant activity was observed on F4, with values of 4.17 μM trolox/g of juice (determined by M1) and 3.58 μM trolox/g of juice (determined by M2). The antioxidant activity of lutein and the epigallocatechin gallate was observed by both extraction methods. Hence, the addition of these compounds can increase the beneficial antioxidant effect of fruit juices.

Keywords: radical ABTS; antioxidant activity, mixed fruit juice.

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