Abstract

Introduction: Green juice is popularly known for introducing antioxidants, improving intestinal function and reducing weight gain. Objectives: In the present study we determine the antioxidant effect of green juice comparing it with orange juice. Methods: Rats were divided into three experimental groups and submitted to supplementation for 15 days: the (GJ) group received green juice, the (OJ) group received orange juice and the control group received water. We evaluated the antioxidant activity and total phenolic content of green and orange juices, as well as rat weight gain. We also investigated some oxidative stress parameters, namely thiobarbituric acid-reactive substances (TBARS), superoxide dismutase and catalase in rat cerebral cortex. Results and discussion: Results showed that GJ had significantly less weight gain than the control group. With respect to antioxidant activity screening, the remaining percentage of DPPH at dilutions 1:10, 1:100 and 1:1000 of green juice was 22.8%, 58% and 78%, and orange juice, at the same dilutions, was 5.6%, 5.6% and 77.2%, respectively. The ability of juices to reduce the ABTS radical was 3.5 mmol trolox/L for green juice and 5.2 mmol trolox/L for orange juice. Additionally, the green juice did not present any difference in total phenolic acid content when compared to orange juice. TBARS were reduced in GJ and OJ. Besides, GJ supplementation decreased catalase activity. In conclusion, our data showed that green juice reduced weight gain, lipoperoxidation and catalase activity, suggesting that this supplementation may have a protective effect against reactive species.

Keywords
Key words, Green juice, Oxidative stress, Antioxidant, Weight gain, Rats.