IN VIVO ANTIOXIDANT ACTIVITY OF UNSWEETENED ACEROLA, CASHEW APPLE AND MANGO TROPICAL JUICES

Lívia Carvalho B. Holanda¹, Neuza F. Gomes², Winne M. de Carvalho¹, Marília de F. Cabral¹, Samira P. Moreira¹, Geraldo A. Maia¹, Raimundo W. de Figueiredo³, Dirce F. de Melo², Isabella M. Brasil¹

¹ Department of Food Technology, Center of Agricultural Sciences, Federal University of Ceará – UFC.
² Department of Biochemistry and Molecular Biology, Center of Sciences, Federal University of Ceará – UFC, Av. Humberto Monte S/N, Fortaleza, Ceará, Brazil

Brazil is one of the largest producers of fruit and tropical fruit juices, which have world-wide consumption. Studies on antioxidant activity related to fruits are mainly focusing on subtropical fruits. Therefore, studies concerning to in vivo antioxidant activity of tropical fruits and produce are still scarce. This work aimed to evaluate the in vivo antioxidant activity of unsweetened acerola, cashew apple and mango tropical juices. This study used the thiobarbituric acid method (TBARS) to quantify the level of malonaldehyde (MDA) generated after the oxidative stress induced by ethanol in Swiss male rats. Sixty animals were divided into six groups (n = 10) and submitted to intragastric feeding with tropical juices, ascorbic acid (20 mg/100 g weight) and water (control group) during 30 days. On the 30th day of the experiment five of the six groups received acute dose of ethanol (5 g / kg). The animals which received unsweetened acerola, cashew apple and mango tropical juice, when compared to those who received water and acute dose of ethanol showed decrease in MDA levels of 28.50%, 31.28% e 22.97%, respectively. Indeed, the data showed that unsweetened acerola and cashew apple tropical juices had higher antioxidant protection in relation to unsweetened mango tropical juice. In summary, the antioxidant potential of unsweetened acerola, cashew apple and mango tropical juices were evidenced by the decreasing of lipid peroxidation level in hepatocytes of treated animal compared to controls, showing the hepatoprotective effect against oxidative stress induced by ethanol.