CONSUMPTION OF BARU SEED, PEANUT AND BRAZIL NUT PROTECT AGAINST LIPID PEROXIDATION IN RATS

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Baru seed (Dipteryx alata Vog.), peanut and brazil nut contain bioactive substances, especially those with antioxidant activity. However, data about the effect of these foods in the protection against lipid peroxidation are rare in literature. This work evaluated the effect of the intake of baru seed, peanut and brazil nut on lipid peroxidation in adult Wistar rats treated with one of the following high-fat diets, over 9 weeks: standard (soybean oil), lard diet (control) and experimental diets (baru seed, peanut or brazil nut). At the end of the assay, samples of the liver were collected in order to evaluate total malondialdehyde (total MDA), reduced glutathione and vitamin E. Peanut, baru seed and brazil nut reduced lipid peroxidation (total MDA: baru seed= 92 mmol.g protein⁻¹, peanut= 89 mmol.g protein⁻¹ and brazil nut= 154 mmol.g protein⁻¹) compared to lard-control (total MDA= 346 mmol.g protein⁻¹). Peanut consumption improved the levels of GSH (4.3 μmol.g protein⁻¹) and vitamin E (15.2 μmol.g tissue⁻¹) when compared to those of baru seed (GSH= 1.8 μmol.g protein⁻¹ and vitamin E= 10.8 μmol.g tissue⁻¹) and of brazil nut (GSH= 1.6 μmol.g protein and vitamin E= 11.6 μmol.g tissue⁻¹). Peanut showed a protective activity higher than that of baru seed and brazil nut by reducing lipid peroxidation and by maintaining the hepatic levels of GSH and vitamin E. Additionally, baru seed was more effective on reducing lipid peroxidation compared to brazil nut. These results reinforce the potential use of these edible seeds and nut as part of a healthy diet.