

The Acute Impact of the Intake of Breadsticks from Different Durum Wheat Flour Mixtures on Postprandial Inflammation, Oxidative Stress, and Antiplatelet Activity in Healthy Volunteers: A Pilot Cross-Over Nutritional Intervention

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Abstract : High intakes of carbohydrates and fats have been associated with an increased risk of chronic diseases due to the role of postprandial oxidative stress. This pilot nutritional intervention aimed to examine the acute effect of consuming two different types of breadsticks prepared from durum wheat flour mixtures differing in total phenolic content on postprandial inflammatory and oxidant responses in healthy volunteers. A cross-over, controlled, and single-blind clinical trial was designed, and two isocaloric high-fat and high-carbohydrate meals were tested. Serum total, HDL- and LDL-cholesterol, triglycerides, glucose, CRP, uric acid, plasma total antioxidant capacity, and antiplatelet activity were determined in fasting and 30, 60, and 120 min after consumption. The results showed a better postprandial HDL-cholesterol and total antioxidant activity response in the intervention group. The choice of durum wheat flours with higher phenolic content and antioxidant activity is presented as promising for human health, and clinical studies will expand to draw safer conclusions.

Keywords : breadsticks, durum wheat flours, postprandial inflammation, postprandial oxidative stress, ex vivo antiplatelet activity

Conference Title : ICFSN 2023 : International Conference on Food Science and Nutrition

Conference Location : Kyoto, Japan

Conference Dates : November 20-21, 2023