Comparison of urinary excretion of total polyphenols after a high antioxidant diet and a low antioxidant diet

Hurtado-Barroso S¹,²*, Tresserra-Rimbau A¹,², Alvarenga JFR¹, Lamuela-Raventós RM¹,²

¹Dept Nutrició, Ciències de l'Alimentació i Gastronomia, Facultat de Farmàcia i Ciències de l'Alimentació, Universitat de Barcelona (UB), Av. Prat de la Riba 171, 08921 Santa Coloma de Gramenet (Spain); Institut de Recerca en Nutrició i Seguretat Alimentària (INSA-UB), Universitat de Barcelona (UB). ²CIBER Physiopathology of Obesity and Nutrition (CIBERobn), Institute of Health Carlos III, ISCID, Madrid, Spain.

*Presenting author. Electronic address: sara.hurtado_17@ub.edu

Background and objectives:
The hypothesis proposed was that the bioavailability of bioactive compounds, such as polyphenols, may be higher when the body is under a stressful situation (such a low antioxidant diet). The aim of this work was to compare the urinary excretion of total polyphenols before and after the intake of a single dose of sofrito after following either a high or a low antioxidant diet.

Methodology:
A crossover, randomized and controlled interventional study was carried out. Twenty-two healthy volunteers between 18 and 32 years performed two interventions, a high antioxidant diet and a low antioxidant diet for two weeks. Then, they consumed a single dose of sofrito. Polyphenols in urine were assessed by the Folin-Ciocalteu method before and after sofrito intake (from 0h to 24h).

Results and conclusions:
The concentration of polyphenols in urine was significantly higher after having the high antioxidant diet. However, the urinary concentration of polyphenols between 0 a 3 hours after the sofrito intake was higher among participants who followed the low polyphenolic diet. This response may be due to a higher absorption of polyphenols after following a low antioxidant diet.

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