

Different polyphenol excretion between two populations following a 40th parallel diet

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Background and objectives:

Polyphenols are non-nutrients of the human diet, secondary metabolites produced by plants in response to stress. Their consumption has recently been related with the lowering of risk factors of different conditions such as cancer or cardiovascular disease. Polyphenol excretion in urine is a measure of the polyphenol intake, which is very dependent on diet, among other factors. In the present study this variable was compared between two populations: California (USA) and Barcelona (Spain).

Methodology:

In order to obtain the total polyphenol content in urine, the Folin-Ciocalteu method was used after a purification by solid phase extraction. The method is based on the reduction of fosfomolibdate and fosfotungstate originated by the antioxidant capacity of the polyphenols, which can then be determined by a colorimetric measurement. Besides, creatinine in urine was also measured to get a corrected and more accurate polyphenol concentration.

Data were compared using a t-test ($P < 0,05$) of IBM SPSS Statistics software.

Results and conclusions:

The comparison showed that California subjects had a significantly higher total polyphenol excretion related to that of the population from Barcelona (429,33 $\mu\text{g/ml}$ vs. 274,33 $\mu\text{g/ml}$).

These results could derive from a higher polyphenol intake of the population from California than that of Barcelona, but dietary data is still being analyzed.

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