Differences in dietary intakes, food sources and determinants of total flavonoids between Mediterranean and non-Mediterranean countries participating in the European Prospective Investigation into Cancer and Nutrition (EPIC) study

A greater adherence to the traditional Mediterranean (MED) diet is associated with a reduced risk of developing chronic diseases. This dietary pattern is based on higher consumption of plant products that are rich in flavonoids. We compared the total flavonoid dietary intakes, their food sources and various lifestyle factors between MED and non-MED countries participating in the EPIC study. Flavonoid intakes and their food sources for 35,628 subjects, aged 35–74 years and recruited between 1992 and 2000, in twenty-six study centres were estimated using standardised 24 h dietary recall software (EPIC-Softw). An ad hoc food composition database on flavonoids was compiled using analytical data from the United States Department of Agriculture and Phenol-Explorer databases. Moreover, it was expanded to include using recipes, estimations of missing values and flavonoid retention factors. No significant differences in total flavonoid mean intake between non-MED countries (373.7 mg/d) and MED countries (370.2 mg/d) were observed. In the non-MED region, the main contributors were proanthocyanidins (48.2 %) and flavan-3-ol monomers (24.9 %) and the principal food sources were tea (25.7 %) and fruits (32.8 %). In the MED region, proanthocyanidins (59.0 %) were by far the most abundant contributor and fruits (55.1 %), wines (16.7 %) and tea (6.8 %) were the main food sources. The present study shows similar results for total dietary flavonoid intakes, but significant differences in flavonoid class intakes, food sources and some characteristics between MED and non-MED countries. These differences should be considered in studies about the relationships between flavonoid intake and chronic diseases.

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