DIETARY POLYPHENOL INTAKE IS INVERSELY ASSOCIATED WITH BODY MASS INDEX AMONG EUROPEAN ADOLESCENTS: THE HELENA STUDY

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Introduction: There is no descriptive total polyphenol intake study available in adolescents, although a few studies exist on specific polyphenols in single-country studies [1-3]. The purpose of the present study were to estimate European adolescent's dietary intake of polyphenols and to explore the main food contributions.

Materials and methods: Data were obtained from the HELENA study and were reported for 2428 adolescents (53 % girls). Food intake of polyphenols was estimated by two non-consecutive 24 hour recalls via matching with the Phenol-Explorer database. Linear regression was performed to estimate dietary intake of polyphenols and socio-demographic differences.

Results: Median, lower and upper quartiles of polyphenol intakes were 326, 167 and 564 mg/d, respectively. Main food contributors of total polyphenols and flavonoids were fruit (22.9 %, mainly apple and pear i.e. 16.3 %); chocolate products (19.2 %); and fruit and vegetable juices (15.6 %). Coffee was the primary food source to phenolic acids intake, while the major food sources of lignans were bread, crisp bread, rusks and crackers (58-71 %). Wine was the main source of stilbenes in all regions, with a contribution of 51-57 %. Cereal products were the most important dietary source of other polyphenols, especially alkylphenols in all regions (54-80 %).

Conclusion: The current study provided for the first time numbers on the total polyphenol intake and their main food sources in a heterogeneous group of European adolescents. Major differences with adult populations are the lower polyphenol consumption and the major food sources, such as chocolate and biscuits.

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