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Abstract

Background and objectives: Accurate assessment of food intake in children and adolescents is an essential prerequisite for conducting epidemiological and clinical research on the links between diet and health. The objective of the present study was to examine the validity for estimating energy and macronutrients intake of a newly developed picture aid, semi-quantitative food frequency questionnaire (FFQ) for Greek children and preadolescents.

Methods: Sixty nine children, aged 10-12 years old (48% boys) were voluntarily enrolled in the study (86% participation rate). Children were asked to complete a 48 food items and 11 more supplementary questions, picture aid, FFQ as the test instrument and a 3-day Dietary Record (3DD) as the reference method. Anthropometric and lifestyle characteristics were also measured to evaluate the factors that may be related with reporting the dietary intake. The Bland and Altman method and the Wilcoxon signed rank test were used to evaluate the degree of agreement between the FFQ and the 3DD.

Results: The two methods were found to agree in terms of mean energy intake according to the Bland and Altman method, although a trend in overestimating energy intake was

found as the intake increases. Additionally, results of the Wilcoxon signed rank test revealed the similarity of the distribution in energy intake as estimated from the FFQ and the 3DD (median (IQR): 2038 (1264 - 2651) kcals for the FFQ vs. 1902 (1583 - 2324) kcals for the 3DD, $p=0.33$). Concerning macronutrients intake, the agreement was also considered adequate as the mean difference for each nutrient was $< 1SD$ of the same nutrient intake as estimated from the reference method.

Conclusions: The FFQ can be used to estimate mean daily energy intake in children, as well as to estimate macronutrients intake at the group level.

Key words: nutritional assessment; food frequency questionnaire; validation; children