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The effect of fruit preferences in fruit intake after an intervention-control program

Background and objectives: Preferences determine food intake, and may be relevant to the results of interventions to promote fruit consumption. The aim was to study the effect of baseline consumption and preferences of different fruit types on the total and specific fruit consumption in children submitted to an intervention program.

Methodology: An intervention-control program was carried out as part of the ProGreens project among Portuguese schoolchildren (6th graders; n = 690; 51.2% boys; intervention group: 45.1%). Data were collected at baseline (May 2009) and follow-up (May 2010).

Fruit intake was assessed using 24h-recall. Fruits contributing less than 5% of total intake were combined ("other"). Preferences were assessed using a five-item scale, recoded into "Like very much" vs. other answers (due to high percentages of the first option). Participants that had never tried one of the 4 types of fruit (n = 59) were excluded from the analysis.

A multivariate ANOVA was ran, using sex, group (intervention vs. control), baseline total fruit intake, percentage of contribution by each fruit (apple, banana, pear, orange, other) and baseline preferences as predictors of the changes (follow-up minus baseline) in total fruit intake and percentages of contribution. Participants that had never tried one of the 4 types of fruit (n=59) were excluded from this analysis.

Results: All dependent variables were significantly predicted ($p < 0.001$). No main effects of sex or sex*group interactions were observed. The intervention group has a more favorable evolution regarding orange consumption.

The evolutions in total fruit intake and in the contribution of each fruit were negatively associated to their baseline values. Additionally banana's baseline contribution was associated to a more favorable pear's consumption evolution.

Higher baseline preferences for apple and banana were associated to higher change in the proportion of the respective fruit intake, whereas the opposite was verified for pear. Higher preference for orange was associated to an increase in total fruit intake.

Conclusions: This study demonstrates the relevance of considering the preferences on the effects of interventions to promote fruit intake, even when studied concomitantly with baseline consumptions. The evolution on fruit intake mainly depends on consumption and preferences regarding each kind of fruit, but whereas baseline fruit intake tends to be associated to a negative outcome (perhaps due to "ceiling effect"), high preferences mostly associate to more favourable evolutions.



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Overweight/obesity, eating habits and lifestyle among Italian adolescents: the ALIADO study

Objectives: The study aimed to evaluate the prevalence of overweight/obesity in adolescents via measured weight and height, considering eating habits and lifestyle.

Methodology: A representative cluster sample of 369 adolescents in the second class of secondary school in the Lazio region was investigated. Body weight, height and waist circumference were measured. Ponderal status was assessed by the IOTF and the WHO definitions. Waist circumference/height ratio (WC/Ht) cutoff of 0.5 was used to classify subjects with the highest cardio-metabolic risk. Selected food habits and lifestyle characteristics were assessed by questionnaires.

Results: Prevalence of overweight/obesity was 23.3% according to IOTF and 26% according to WHO criteria with higher percentages of males than females (30.2% vs 17.9% with IOTF and 33.9% vs 19.8% with WHO). The WC/Ht>0.5 was observed in 12.7% of the sample (29.8% of the overweight and all the obese). Only 7% of the youth consumed ≥ 5 servings a day of fruits and vegetables as recommended, 14.9% had sweets more than once a day and 11.4% ate between meals every day, outside of the 5 main meals. Breakfast was consumed daily by only 60.4% of the adolescents and 10.3% never did. More than half of the teenagers was not physically active and 15.4% slept less than 7 hours a night, contrary to those recommended (8-10 hours). Moreover, a high percentage of teens watched TV (35.2%) and used the computer (42.3%) ≥ 2 hours a day on weekdays exceeding recommendations and the percentage rose on weekends.

Conclusion: These results from measured data showed a high prevalence of overweight/obesity in the sample and food habits and lifestyle not in accordance with the recommendations. The survey by measured anthropometry in adolescents should be extended to other Italian regions. Interventions are needed to change these unhealthy behaviors, which can influence lifestyle and health of later ages.

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