Intervention effects on dietary intake among children by maternal education level: results of the Copenhagen School Child Intervention Study (CoSCIS)

Dietary intake among Danish children, in general, does not comply with the official recommendations. The objectives of the present study were to evaluate the 3-year effect of a multi-component school-based intervention on nutrient intake in children, and to examine whether an intervention effect depended on maternal education level. A total of 307 children (intervention group: n 184; comparison group: n 123) were included in the present study. All had information on dietary intake pre- and post-intervention (mean age 6·8 and 9·5 years for intervention and comparison groups, respectively) assessed by a 7-d food record. Analyses were conducted based on the daily intake of macronutrients (energy percentage (E%)), fatty acids (E%), added sugar (E%) and dietary fibre (g/d and g/MJ). Analyses were stratified by maternal education level into three categories. Changes in nutrient intake were observed in the intervention group, mainly among children of mothers with a short education (<10 years). Here, intake of dietary fibre increased (β = 2·1 g/d, 95% CI 0·5, 3·6, P = 0·01). Intake of protein tended to increase (β = 0·6 E%, 95% CI −0·01, 1·2, P = 0·05), while intake of fat (β = −1·7 E%, 95% CI −3·8, 0·3, P = 0·09) and SFA (β = −0·9, 95% CI −2·0, 0·2, P = 0·10) tended to decrease. Also, a significant intervention effect was observed on the intake of SFA among children of mothers with a long education (β = −0·8, 95% CI −1·5, −0·03, P = 0·04). This multi-component school-based intervention resulted in changes in the dietary intake, particularly among children of mothers with a short education. As the dietary intake of this subgroup generally differs most from the recommendations, the results of the present study are particularly encouraging.

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