

# **Intake of micronutrients high in animal-source foods is associated with better growth in rural Kenyan school children**

## **Abstract:**

Observational studies have shown that children in developing countries consuming diets containing high amounts of bioavailable nutrients, such as those found in animal-source foods, grow better. The present study investigated which specific nutrients from the diet of Kenyan school children predicted their growth. The children (n 544, median age 7 years) participated in a 2-year long food supplementation study with animal-source foods. Height gain during the intervention period was positively predicted by average daily intakes of energy from animal-source foods, haem Fe, preformed vitamin A, Ca and vitamin B12. Weight gain was positively predicted by average daily intakes of energy from animal-source foods, haem Fe, preformed vitamin A, Ca and vitamin B12. Gain in mid-upper-arm muscle area was positively predicted by average daily intakes of energy from animal-source foods and vitamin B12. Gain in mid-upper-arm fat area was positively predicted by average daily intakes of energy from animal-source foods. Gain in subscapular skinfold thickness was not predicted by any of the nutrient intakes. Negative predictors of growth were total energy and nutrients that are contained in high amounts in plant foods. The study shows that growth was positively predicted by energy and nutrients that are provided in high amounts and in a bioavailable form in meat and milk, and their inclusion into the diets of children in developing countries should be part of all food-based programmes in order to improve micronutrient status and growth