

Food supplements have a positive impact on weight gain and the addition of animal source foods increases lean body mass of Kenyan schoolchildren

Abstract:

Observational studies of dietary patterns and growth and studies with milk supplementation have shown that children consuming diets containing animal source foods grow better. This study evaluates the growth of 544 Kenyan schoolchildren (median age 7.1 y) after 23 mo of food supplementation with a meat, milk or energy supplement (approximately 1255 kJ) compared to a control group without a supplement. Multivariate analyses controlled for covariates compared gain in weight, height, weight-for-height Z-score (WHZ), height-for-age Z-score (HAZ), mid-upper-arm circumference, triceps and subscapular skinfolds, mid-upper-arm muscle and mid-upper-arm fat area. Children in each of the supplementation groups gained approximately 0.4 kg (10%) more weight than children in the Control group. Children in the Meat, Milk and Energy groups gained 0.33, 0.19 and 0.27 cm more, respectively, in mid-upper-arm circumference than children in the Control group. Children who received the Meat supplement gained 30-80% more mid-upper-arm muscle area than children in the other groups, and children who received the milk supplement gained 40% more mid-upper-arm muscle area than children who did not receive a supplement. No statistically significant overall effects of supplementation were found on height, HAZ, WHZ or measures of body fat. A positive effect of the milk supplement on height gain could be seen in the subgroup of children with a lower baseline HAZ (≤ -1.4). The results indicate that food supplements had a positive impact on weight gain in the study children and that the addition of meat increased their lean body mass.