Nutrient intakes at lunchtime of primary school children in Cornwall: a comparison of school meals and packed lunches

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Introduction

- Media attention has recently focused on the nutritional composition of school meals. Since the introduction of new government standards for school meals, there have been reports of more children choosing to consume packed lunches.

Aim

- To assess the nutrient intake of children at lunchtime, comparing those consuming meals provided by schools with children consuming packed lunches.

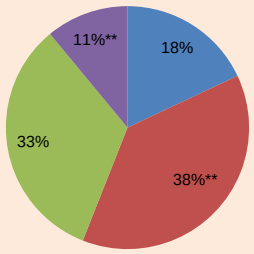
Method

- Children aged 6-11 years were observed at lunchtime in 4 schools.
- Food items consumed and wastage were recorded.
- Nutrient analysis was performed using CompEat nutrient analysis program using additional information from packaging and catering staff.
- The differences in means between groups were determined by independent samples t-tests.

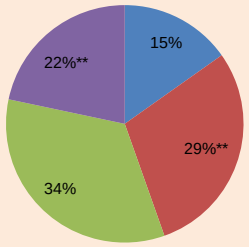
Results

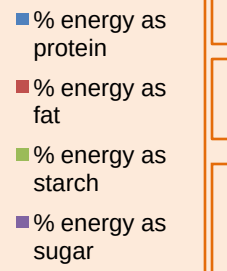
- 120 pupils took part - school meals n=62, packed lunches n=58
- Mean energy consumed was similar between the two types of meals:
- School meals: 440 kcal (SD 162, range 44 - 895)
- Packed lunch : 480 kcal (SD163, range 53 - 813)
- This is just below the government standards for a child 7-10 years old of 520kcal female and 590kcal male.
- Compared to school meals, packed lunches provided twice as much energy from sugar.

School meals



Packed lunch





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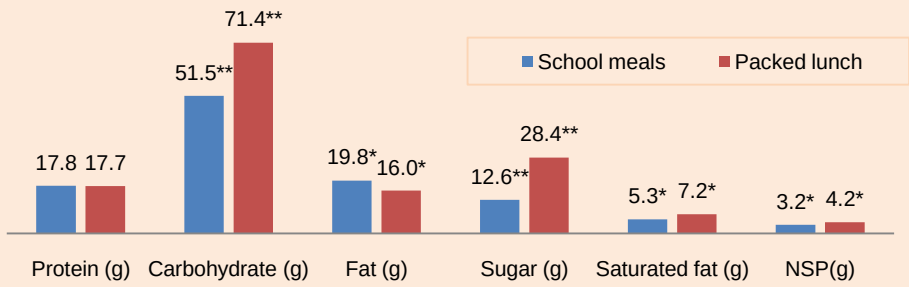
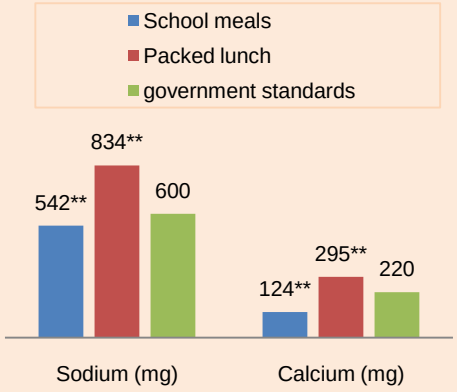
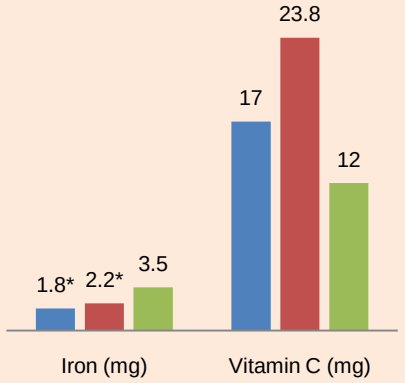
Macronutrient intake



Sodium and calcium intake



Iron and vitamin C intake



The government standard is at least 40% of RNI for calcium, iron, vitamin C and a maximum of 30% SACN recommendation for sodium. (RNI used is for 7-10 yrs old.)

Conclusion

- Despite huge variability in the content of packed lunches and in the quantity of school meal eaten, mean energy & protein intakes between the groups were similar.
- Children having a packed lunch consumed more than double the amount of sugar and approx 50% more sodium and saturated fat than those eating a school meal.
- However on average packed lunches provided more calcium, iron and NSP.