

Validity of self-reported lunch recalls in Swedish school children aged 6-8 years

Monica Hunsberger, Pablo Pena Lauren Lissner, Lisen Grafström, Barbara Vanaelst, Claudia Börnhorst, Valeria Pala, Gabriele Eiben, on behalf of the IDEFICS Consortium



BACKGROUND

Often we want to learn what young children are eating away from home.

Previous studies have suggested that young children are inaccurate reporters of dietary intake.

Parent or adult involvement in dietary assessment is sometimes relied upon.

The age at which children can self-report is not clear.

There is a reported transition period in cognitive development between 8-12 years of age.¹

This implies that 8 years of age may be a critical turning point in which some children may start to overcome their difficulties in reporting dietary intake.

AIMS

The purpose of this study was to validate a single recall of the previous day's school lunch reported by 6-8 year old Swedish children and to assess teacher-recorded intake of the same meal in a standardized food journal.

An additional research question was whether parents could report their child's intake of the previous day's lunch.

SUBJECTS

The IDEFICS (Identification and prevention of Dietary- and lifestyle-induced health Effects In Children and infantS) study is a multi-center, prospective cohort study, which includes children aged 2-9 years from 8 European countries.

September 2007-June 2008, children from pre- and primary-schools in each of the eight countries participated in the baseline assessment.

This sub-study is based upon a convenience sample of IDEFICS participants from western Sweden, n=25, (12 boys and 13 girls) aged 6-8 (mean 6.6) years who were interviewed 183-344 days after the IDEFICS baseline survey.

These children recalled intake of the previous day's lunch which teachers had recorded during the meal.

We assessed the validity of children's self-report and teacher-recorded intake.



References:

1. Burrows T, Martin R, Collins C: A systematic review of the validity of dietary assessment methods in children when compared with the method of doubly labeled water. *Journal of the American Dietetic Association* 2010, 110(10):1501-1510.

RESULTS

Children were accurate self-reporters of their dietary intake at lunch, with no significant difference between reported and weighed intake (Mean difference (SD): 7(50) kcals, p=0.49).

Foods were recalled by children with a food-match rate of 90%.

Teachers significantly over-reported intake (Mean difference (SD): 65(79) kcals, p=0.01).

For both methods, child-reported and teacher-recorded, correlations with weighed intake were strong (Pearson's correlations r=0.92, p<0.001 and r=0.83, p<0.001 respectively).

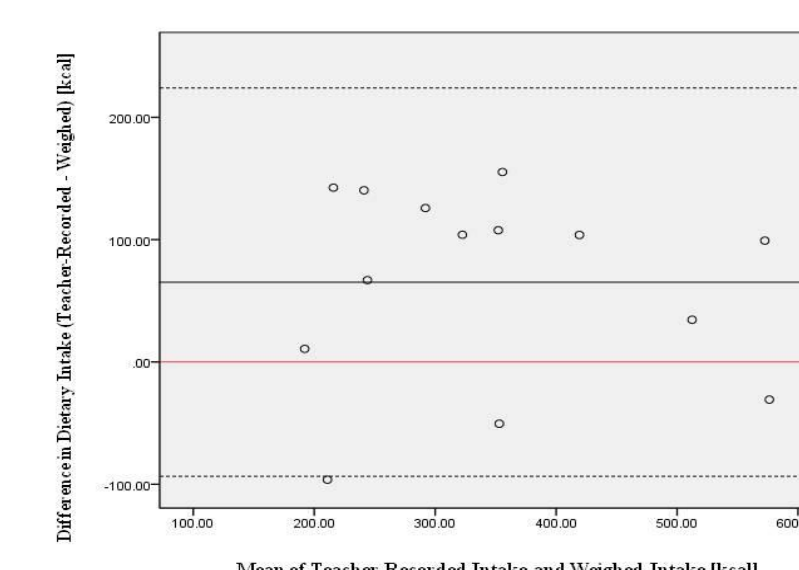
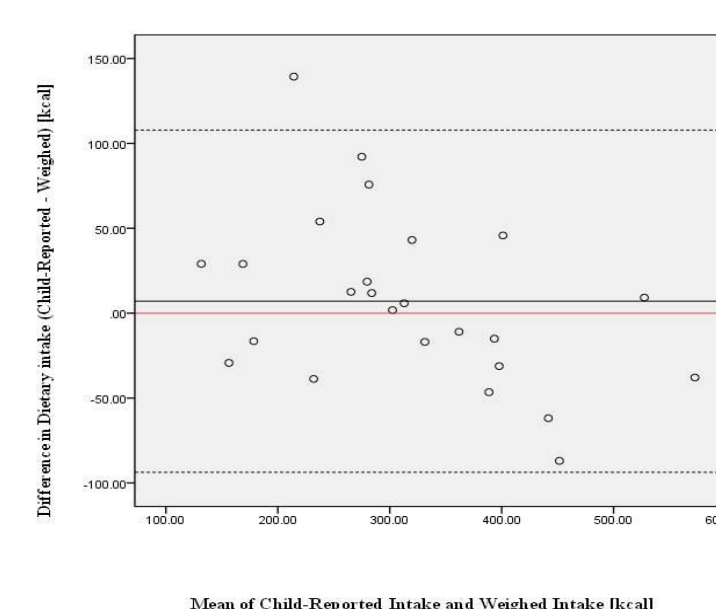
Bland-Altman plots showed strong agreement between child-reported and weighed intakes but confirmed systematic differences between teacher-records and weighed intakes.

Parents were unable to report on quantities consumed and only four of 25 children had parents with knowledge regarding food items consumed.

Mean energy content of 25 lunches, by duplicate plate reference method, child's recall the next day and teacher's record during the meal (n=14)



Correlations between kcals by reference and: child r = 0.92, p<.001; teacher r = 0.83, p<0.001
Paired t-test between kcals by reference and: child mean difference (SD) 7 (50) kcals, p=0.49;
teacher mean difference (SD): 65(79) kcals, p=0.01



CONCLUSIONS

Our findings suggest that children as young as six years of age may be better able to report on their dietary intake than previously suggested, at least for one main meal at school.

Teachers were less accurate than the children.

Teacher-recorded intake provides a satisfactory estimate but with greater systematic deviation from the weighed intake.

Parents were not able to report on their children's school lunches consumed on the previous day.