

Determinants of energy under-reporting in rural adolescents

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Objective. To assess the extent of under-reporting (UR) in rural adolescents and investigate associated covariates.

Methods. A total of 150 adolescents aged 11–17 years were included. Food intake was reported in a 3-d diet record. Socio-economic status, sedentary behavior and physical activity were collected by questionnaires. Weight height and waist circumference were measured. A body mass index (BMI) was calculated.

Plausibility cut-offs for reported energy intake as a percentage of predicted energy requirements were used to identify under-reporters.

Multivariate logistic regressions investigated the associations between UR and covariates.

Results. The percentages of under- and over-reporters of energy intake were 35.3% and 3.3% respectively. Energy intake was under-reported more in older adolescents and boys. In multivariate analysis UR was associated with BMI and waist circumference Z-scores (OR 1,7 [95% CI 1,1–2,4] and OR 1,5 [95% CI 1,1–2,2] respectively) and participation in sports groups (OR 2,5 [95% CI 1,1–5,4]).

Conclusion. In conclusion, in rural sample under-reporters differ from plausible reporters in several characteristics related to age, sex, weight status and organized physical activity. Therefore, it is important to consider this differential UR bias when investigating diet-disease associations in adolescents.