

Methodology for Longitudinal Assessment of Nutrient Intake and Dietary Habits in Early Childhood in a Transnational Multicenter Study

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Journal of Pediatric Gastroenterology and Nutrition 2011; 52: 96-102.

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Objectives: The aim of this study was to describe developed methods for repeated longitudinal assessment of feeding habits and nutrient intakes of children in a multicenter trial in different European countries and to assess feasibility.

Patients and Methods: Nutrient intake and dietary habits of formula-fed and breast-fed infants were assessed in 5 European countries (Belgium, Germany, Italy, Poland, and Spain). Prospective age-adapted 3-day weighed food records were used from birth to 2 years of age (1, 2, 3, 4, 5, 6, 7, 8, 9, 12, 18, and 24 months). Standard operating procedures were developed to check each day's food record for quality. Dietitians were trained by using standardized food records. Data entry and nutrient analyses were performed with a dedicated software developed for this project.

Results: Of 1368 study participants, at least one 3-day food record was available; of 25,367 1-day food records, data on quality could be evaluated. Overall, between 81% and 97% (depending on the country) of the food records had been completed with high accuracy. The implementation of solid foods and regular family foods decreased the recording quality significantly during the 2-year time course ($P < 0.001$). The standardized training shows coefficients of variation up to a maximum of about 41%, indicating differences in data entry.

Conclusions: The experiences gathered indicate that collecting dietary and behavioral data in a large number of infants from different cultures is a challenging but feasible task in which permanent supervision and training is vital. However, we conclude that the established methodology is suitable to obtain valuable results on current infant nutrition practice in Europe.

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