Methodological Problems in Micronutrient Intake Measurement

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The calculation of micronutrient intake from food tables is not an easy task. Most food tables give data for only a few micronutrients. For certain micronutrients, the data usually are incomplete, as their presence in a number of relevant foodstuffs is not known or given. The main problem, however, is that the data, if available in the food table, are not representative of the foods consumed by the subjects in question. It is well known that the micronutrient content of various foods is determined by diverse factors. In vegetables it is dependent on soil composition, in animals on breeding and in all foods it is dependent on climate and other environmental variables. Thus, to measure actual micronutrient intake, chemical analysis of duplicate portions is the only alternative. This technique has many advocates as it will give exact figures for the actual intake. A nutritionist must however always raise the question: 'Is the actual intake similar to the usual intake of the subject?' Nutritionists should know that every prospective dietary survey influences the dietary habits of the subject to some extent during the study. The paper will illustrate the fact that the duplicate-portion technique influences the dietary habits of the subject to such an extent that the data despite meticulous chemical analyses do not represent usual intake levels. Procedures to overcome these drawbacks will be suggested and discussed.