

A semiquantitative food frequency questionnaire of measuring nutrient intakes for Chinese adolescents

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The food frequency method has rarely been used in food intake studies in China, however such an instrument is needed for estimation of habitual food and nutrient intake in large-scale surveys and epidemiological studies in the country. This study reports the development of a semiquantitative food frequency questionnaire (SFFQ) designed to obtain data on habitual nutrient intakes of Chinese female adolescents in studies of their calcium and vitamin D status and bone health.

A list of foods was developed by means of a data-based approach (1), using food intake data recorded by a 3-day weighed record for a random sample of 3092 Beijing residents in the 1992 National Nutrition Survey (2). Foods were ranked in order of their contribution to the total calcium intake. The top 102 food items representing 94 % of the population's calcium intake were selected as the basic list. Some foods rich in calcium and observed to be popular among Chinese teenage girls were added to the list (eg. dried fish snacks). Chinese measures (bowls and spoons, standard size) were used to quantify some food items. The food composition data were from the Chinese food tables (3). The average frequency of consumption of each food item over the past year, in specified serving sizes, was indicated by marking one of 10 frequency categories. The SFFQ was pre-tested among 10 girls prior to field administration, and reproducibility and validity studies were conducted in a subsample of 200 girls from the survey.

Code	Item (example only)	Portion size	Servings consumed (n)	Frequency						Duration					
				Per day			Per wk			Per mo			Month	Peak	
				1	2	3	1	2	3	4	5	6	1	2	3
1045	Rice	1 small bowl													
5016	Chinese cabbage	1 spoon													

¹R/N = rarely or never consumed

The final food list contained 103 food items representing 86 % of calcium intake of Beijing residents. The pretest of the SFFQ showed a correlation of calcium with the 3-24 h dietary recall method of $r = 0.56$. It was found in the study of calcium and vitamin D status of 1300 study girls that the SFFQ can be self-administrated by girls in this age group with the assistance of a set of food measure models and, in some cases, with the help of parents. The results for nutrient intakes obtained by use of the SFFQ are being further validated by comparison with a 6-day dietary recall and an independent test with another group of same-aged girls.

1. Block G, Hartman AM, Dresser CM, Carroll MD, Gannon J, Gardner L. A data-based approach to diet questionnaire design and testing. *Am J Epid* 1986;124:453-69.
2. Beijing Institute of Food Inspection and Examination. Dietary survey among Beijing residents in 1992. Beijing: Beijing Institute of Food Inspection and Examination, 1993.
3. Institute of Nutrition and Food Hygiene. Food composition tables. Beijing: People Health Publisher, 1991.