

[P4-8]

The Reproducibility of A Food Frequency Questionnaire for Middle-aged Koreans

Jeongseon Kim¹, Yoon-Ok Ahn²

¹Department of Food & Nutrition in Oriental Medicine, Semyung Univesity, ²Department of Preventive Medicine, College of Medicine, Seoul National University

A food frequency questionnaire (FFQ) has been developed for epidemiological studies and calibrated against three-day dietary records. The present study was done to assess repeatability of the FFQ for middle-aged Koreans. Hospital-based 126 study subjects participated in the survey twice from April till June (FFQ 1) and then from July to September (FFQ 2) again this year with 3-month interval. The participants were aged at 31 to 58 years old (59 men and 67 women). Eighty-seven percent of the study subjects who were interviewed at the first time repeated the second survey. The survey was done using face-to-face interview method. The mean intakes of most nutrients were generally higher when estimated using the second questionnaire than the first. However, mean values for intake of most nutrients assessed by the two food frequency questionnaires were similar. The differences between the nutrient intakes of FFQ 1 and those of FFQ 2 were at most 10 percents. A log transformation was implemented for all nutrient values to reduce skewness. Intraclass correlation coefficients for nutrient intakes, assessed by questionnaires, administered three months apart, ranged from 0.60 for total fat and vitamin B1 to 0.72 for vitamin B2. The average of intraclass correlations between FFQ 1 and FFQ 2 was around 0.66. The Pearson correlations of all nutrients were above 0.50 except for sodium. Correlations vary between 0.47 for sodium and 0.72 for vitamin C. Reproducibility was also evaluated using kappa value. All the values were above 0.5 except for fiber. The average of Kappa values for all the nutrients was 0.67. The degree of misclassification across categories between FFQ 1 and FFQ 2 was examined by dividing nutrient intakes into quintiles. The proportions of correctly categorized subjects in the same or adjacent quintiles were calculated. The cross-classification between the lowest quintile on FFQ 1 and lowest quintile on FFQ 2 ranged from 21% for niacin to 62% for vitamin C and carotene. The greatest misclassifications in the lowest quintile on FFQ 1 and in the highest quintile on FFQ 2 were found for vitamin B1 at 17%. On average, 4% of nutrients were grossly misclassified into extreme quintiles. Overall, the percentage of agreement varied from 62% for energy and potassium to 82% for vitamin B2 and cholesterol. The average of the agreement was 72%. These data indicate that the FFQ is reproducible and provides a useful estimate by which to categorize individuals by level of nutrient intakes. The FFQ will be used in future epidemiological studies, to assess nutritional risk factors of other chronic diseases among middle-aged Koreans who live in Seoul and its metropolitan areas. This is a very important finding that dietary data from the FFQ can be collected efficiently with acceptable validity and reproducibility.