

Development of semi-quantitative food frequency questionnaire for obese Korean adults

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Chronic diseases are a major health problem in modern society, and efforts are needed to manage and prevent chronic diseases. In Korea, a few foods frequency questionnaires (FFQ) have been developed to identify dietary factors related to some chronic diseases, but they have not reflected the recent rapidly changing dietary trends⁽¹⁾. This study aimed to develop a semi-quantitative food frequency questionnaire for obese Korean adults based on the latest Korea National Health and Examination Survey (KNHANES). The dish/food list for FFQ was extracted from the 24-hour recall data of 7,485 Korean obese adults aged 19 to 64 who participated in the 2013–2019 KNHANES. The subjects' energy and nutrient intake information was estimated using 24-hour recall data and an antioxidant database for common Korean foods^(2,3,4). The response section of the FFQ was composed of the intake frequency and average portion size. The frequency section was developed by investigating the distribution of intake frequency of participants in KNHANES for selected dishes, and the portion size section was composed by setting the median values as the standard portion size calculated from the distribution of intake amount per serving for the selected dishes of the subjects. Among the 1,700 dishes consumed by the subjects, dishes with a high intake contribution (>85%) and a high explanatory power (>84%) for between-person variability to the following 11 nutrients were selected: energy, carbohydrates, dietary fiber, sugar, fat, saturated fat, protein, sodium, vitamin A, vitamin E, and flavonoids. Finally, a total of 567 dishes were selected according to the review of subjects' dietary intake data and expert advice, and they were categorized into 128 items according to the recipes and ingredients of the selected dishes. The final 128 items included rice (7), noodles and dumplings (6), breads, rice cakes, and cereal (10), soup and stews (12), eggs, legumes, meats, and fishes (28), vegetables and kimchi (31), fruits (14), milk and dairy products (4), beverages (9), snacks (4), and alcohols (3). The intake of frequency in the response section of the FFQ was consisted of the nine categories; never or seldom, once per month, 2–3 times per month, 1–2 times per week, 3–4 times per week, 5–6 times per week, once per day, twice per day, and three or more times per day, and the response section of the portion size was categorized into 50% of the standard, standard, and 150–200% of the standard. The FFQ developed from this study is expected to be applied in epidemiological studies investigating the eating patterns of Korean adults with chronic diseases after conducting research for the validity and reliability.

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