研究業績　英文表記

和文	
表題	日本食品標準成分表の改訂が 1600kcal 糖尿病食(エネルギーコントロール食)に及ぼす影響について
著者名	酒元誠治 1、村上淳 1、栢下淳子 1、棚町祥子 1、川谷真由美 2、辻雅子 3、里見かおり 4、丹生希代美 5、濱口 優子 6、安井 典子 6、小寺由美 7、今村つるみ 8、小瀬千晶 9、日高知子 10、高橋陽子 11、金津千里 11、甲斐敬子 12、久保彰子 13、久野一恵 14
所属	1 広島修道大学健康科学部健康栄養学科、2 島根県立大学看護栄養学部健康栄養学科、3 徳東京家政学院大学人間栄養学部人間栄養学科、4 徳島日赤病院栄養課、5 広島日赤病院栄養課、6 石川県立中央病院栄養課、7 福井県立病院栄養管理室、8 特定医療法人高森会阿蘇やまなみ病院栄養科、9 独立行政法人国立病院機構神戸医療センター栄養管理室、10(公社)宮崎県栄養士会栄養ケアステーション、11㈱メディカルネットワーク、12 南九州大学健康栄養学部管理栄養学科、13 女子栄養大学栄養学部、14 西九州大学健康栄養学部健康栄養学科
英文	
Title	Effects of revising the standard food composition tables in Japan to 1600 kcal menus (energy-controlled diet) for patients with diabetes
Author	Seiji Sakemoto・Jun Murakami・Junko Kayashita・Yoko Tanamachi 1 , Mayumi Kawatani2, Masako Tsuji3, Kaori Satomi4, Kiyomi Hanyu5, Yuko Hmaguchi・Noriko Yasui6, Yumi Kodera7, Tsurumi Imamura8, Chiaki Kose9, Chiaki Kose9, Tomoko Hidaka10, Yoko Takahashi・Senri Kanatsu11, Keiko Kai12, Akiko Kubo13, Kazue Kuno
Affiliation	1 The Department of Health and Nutrition, The Faculty of Health Sciences, Hiroshima Shudo University 2Department of Health and Nutrition, Nursing dietetics department, The University of Shimane 3 Department of Human Nutrition, Faculty of Human Nutrition, Tokyo Kasei Gakuin University 4Department of Nutrition, Tokushima Red Cross Hospital 5Department of Nutrition, Hiroshima Red Cross Hospital 6Department of Nutrition, Ishikawa Prefectural Central Hospital 7Department of Nutrition, Fukui Prefectural Hospital 8Department of Nutrition, Asoyamanami Hospital 9Department of nutritional management, National Hospital Organization Kobe Medical Center 10 Miyazaki nutrition care station, The Miyazaki Dietetic Association 11Medical Network Co., Ltd. 12Department of Nutrition Management, Faculty of Health and Nutrition, Minamikyushu University 13Department of Applied Nutrition, Faculty of Nutrition, Kagawa Nutrition University 14Department of nutrition, Faculty of Health and Nutrition, Nishikyushu University

Abstract

Objectives: In December 2020, the standard food composition tables in Japan were revised from the 7th to the 8th revised edition. In view of this revision, nutrient values of the diabetic menus altered from the standard menus served in Japanese hospitals were re-assessed.

Methods: The energy was adjusted from under 1989 kcal to 1600±40 kcal by altering the amount of rice in 719 one-day menus offered in 11 hospitals in the Kyushu, Shikoku, Tyugoku, Kinki, and Hokuriku areas in Japan. We selected 379 menus for analysis. These menus fulfilled the required protein-fat-carbohydrate energy ratio. Protein-energy ratios and fat-energy ratios, as determined by conventional methods, were in the ranges of 13–20% and 20–30%, respectively. The carbohydrate-energy ratio determined by conventional methods and calculating the remaining difference was 50–65%.

Results: Energy decreased by 96 kcal from the 7th to the 8th version. Calcium, phosphorus, retinol activity equivalents, and alpha-tocopherol levels did not change significantly. However, there was a significant difference in the levels of other nutrients. The [7th value − 8th value]/7th values for energy-productive nutrients were in the range of 6.0% to -20.8%. The individual values were as follows: triacyl-glycerol equivalents, -20.8%; total dietary fiber, -16.6%. The [7th value − 8th value]/7th values for minerals ranged between 13.3% to -56.1%. The individual values are as follows: chromium, -56.1%; manganese, 13.3%; selenium, -13.2%. The [7th value − 8th value]/7th values for vitamins were in the range of 24.0% to -11.3%. The individual values are as follows: vitamin B1; 24.0%, vitamin C, 17.9%; vitamin B6, 11.5%; and vitamin B12, -11.3%. The values of the protein-fat-carbohydrate energy ratio as determined by conventional methods, new methods, and carbohydrate-energy ratio calculated using the difference were significantly different.

Discussion: In the menus for diabetic patients based on the revised edition, the energy value was reduced by 96 kcal. These differences were restricted to ±40 kcal because of the necessity for diabetes care; -96 kcal was larger than recommended. We hypothesized that the menus may have to be altered. The reason for the decrease in energy may be due to the changes in the calculation methods of protein using nitrogen as a reference and as the sum of amino acid residues and lipid to triacyl-glycerol equivalents. The complexity of the alteration for carbohydrates may be explained by several reasons, including the addition of monosaccharide equivalents, the sugar alcohol setting, or total dietary fiber increase. However, it is difficult to determine and discuss detailed reasons. In this report, we used the value of [(7th value − 8th value)/7th values]. A larger value indicated that the effect of the revised tables is large. However, there are limitations of the diabetic menus which were altered by speculation. We suggest that further research is needed.

In the Dietary Reference Intakes for the Japanese, the amount of energy needed to provide a nutritionally balanced diet (% energy) was evaluated by the Japanese government using the conventional method. It may be necessary to consider these differences during the revision discussions in 2025. This report may be a useful reference when discussing the necessity of rearranging menus.

keywords

revision of standard tables of food composition in Japan, nutrition management for diabetic patients, energy-controlled diet, protein-fat-carbohydrate energy ratio

※本データの英文表記は実際の論文上の表記とは異なります。