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病院食（一般食）に及ぼす影響：栄養素等および新たな考え方に基づくPFC比と従来法との比較について）
著者名	酒元誠治・村上淳・栢下淳子・棚町祥子 1、川谷真由美2、里見かおり3、丹生希代美4、濱口 優子5、安井 典子5、小瀬千晶 6、高橋陽子 7、金津千里 7、久保彰子 8、久野一恵 9
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 徳島日赤病院栄養課、4 広島日赤病院栄養課、5 石川県立中央病院栄養課、6 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、7㈱メディカルネットワーク、8 女子栄養大学栄養学部実践栄養学科、9 西九州大学健康栄養学部健康栄養学科
英文	
Title	The effect of the revised standard tables of food composition in Japan: Comparison of nutrients and the percentage of the macronutrient energy ratio between conventional and new calculation methods
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 Kuno14
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	In December 2020, the standard food composition tables in Japan were revised from the 7th to the 8th revised edition. Considering this revision, the nutrient values of meals served in hospitals may need to be re-assessed. We examined how the changes in nutrient values of meals may differ after the revision. Methods: We used menus from 11 hospitals in the Kyushu, Shikoku, Tyugoku, Kinki, and Hokuriku areas in Japan. First, we adjusted the energy to 1,900 kcal by altering the amount of rice in 719 one-day meal menus (56,141 food items). To assess the difference in energy and 35 nutrients after 8th revised edition, compared to the 7th edition, we created a query on Access, offered by Microsoft, by matching the number of food items and their volumes. Foods that were segmentalized and did not have previous volumes were manually updated. A paired t-test was conducted to compare the values between the 7th and 8th revised editions. We compared the macronutrient ratios between the conventional method (energy ratios of protein, total fat, and carbohydrates) and the new method (energy ratios of protein calculated as the sum of amino acid residues, fat expressed as triacylglycerol equivalent of fatty acid, available carbohydrates expressed in monosaccharide equivalents) of ratio calculation. For carbohydrates, a different calculation method (available carbohydrate by difference, 100 - (protein ratio + fat ratio)) was also utilized; therefore, we compared the values between the conventional, new, and different calculation methods. Results: The energy ratios significantly decreased by 114 kcal. Most of the nutrient values (except for magnesium) were significantly different. The energy ratios ([7th value − 8th value]/7th value) were in the range of 6% to 24.7%, dietary fiber was -24.7%, and the triacylglycerol equivalent was -21.2%. In the case of minerals, the energy ratios were in the range of 11.0% to -62.1%, chromium was -62.1%, selenium was 13.6%, manganese was 11.0%, and potassium was -10.4%. For vitamins, the ranges were from 22.6% to -10.7%, Vitamin B1 was 22.6%, Vitamin C was 20.0%, Niacin was 12.9%, Vitamin B6 was 10.8%, and Vitamin B12 was -10.7%. There were significant differences between the three methods in terms of the protein-fat-carbohydrate energy ratio. In the case of the new tables, energy by protein and energy by fat were lower than the recommended daily allowance for the prevention of lifestyle-related diseases, and energy by carbohydrates exceeded the upper limit. Discussion: The overall energy of menus decreased by 114 kcal; the reason for this was the decrease in the carbohydrate content, especially with the setting of the new categories of sugar alcohols and dietary fiber. Additionally, these increases were more than the increases in protein and fat. In the Dietary Reference Intakes for the Japanese population, 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. We have to think

keywords	Revision of standard tables of food composition in Japan, Nutrition management, Protein-fat-carbohydrate energy ratio, Food Service Management, Dietary Reference Intakes for Japanese population

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