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Needs-based food and nutrient security indices to monitor and modify the food supply and intakes: Taiwan, 1991–2010” from “Food Policy

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Background: To track Taiwanese food and nutrient supplies and population intake of them against the nutrition recommendations by food security indices that warn about food insecurity.

Methods: We used food balance sheets from 1991 to 2010 to estimate food and nutrient supplies and data from 1993-1996 (n = 3,915) and 2005-2008 (n = 2,908) Taiwanese Nutrition and Health Surveys to assess intake of Taiwanese population. Age- and-gender specific Food Guides and Dietary Reference Intakes were multiplied by the population size and then summed to determine food and nutrient needs. Food Security Indices (FSIs) and Nutrient Security Indices (NSIs) were defined as the geometric means of supply-to-needs ratio (S-Nr) and intake-to-needs ratio (I-Nr) with reference to an ideal of 1.0. Higher values indicate potential food insecurity.

Results: From 1997 to 2010, the S-Nr for most food categories and nutrients decreased; dairy products and vegetables fell below recommendations in 2010. For food intake, all except cereals/roots increased between the two surveys, but only vegetables and soy/fish/meat/egg met the needs in 2005-2008. For both surveys, high FSIs for dairy (2.16, 2.26) were due to low supply and low intake, and those for soy/fish/meat/egg (1.78, 1.91) to oversupply and overconsumption. The FSIs for fruit improved from 1.50 to 1.17, with a smaller supply but more consumption. NSIs explained the FSIs.

Conclusion: FSIs and NSIs capture composite information about the food supply, intake, and recommendations, which allows food security to be monitored with action-points of 1.0 for food and nutrition policy.

Biography

Cheau-Jane Peng completed her Master of Arts degree in the University of Texas at Austin, and Master of Public Health in Harvard University, School of Public Health, USA. She is currently enrolled in the PhD program of Environmental Health, School of Medicine, National Cheng-Kung University, Taiwan. Ms. Peng is an associated professor, teaching in Chia Nan University of Pharmacy & Science and Medical School at National Cheng-Kung University, Taiwan. Ms. Peng currently serves as a Superior Specialist in the Office of Hospital Management and Planning, Chimei Medical Center, and has been the Director of Food and Nutrition Department and Vice Director, Center for Teaching at National Cheng-Kung University Hospital in Taiwan. She has also served as a Section Chief of Community Health Division, Health Promotion Administration, Ministry of Health and Welfare in Taiwan. Her professional experience brings her to be a Council Member of Steering Committee and Convener of Public Health Nutrition in Taiwan Nutrition Society. Her interest covers public health nutrition, nutritional epidemiology, nutrition and dietetics.

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