

Prevalence of Nutrient Deficiencies in Older Adults: Results from the Japan National Health and Nutrition Survey 2014

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Abstract : Japan has been experiencing global ageing of population with the World's leading life expectancy (80.8 y for men and 86.9 y for women) and among the lowest birth rate. Preventive nutrition-based approaches have been identified by the health authorities as one of the strategies to increase the healthy life expectancy and reduce the healthcare costs. However, the nutritional needs and status of the senior population have not been well characterized to provide targeted solutions. This study aims to describe the age- and gender-specific prevalence of inadequacy of macro- and micronutrients intake based on the latest Japan National Health and Nutrition Survey (JNHNS) 2014. JNHNS collected data on the consumption of foods and beverages using 1-day semi-weight household dietary record. Nutrient intake levels were then calculated using the Japanese standard tables of food composition. Where applicable, Japanese population-specific estimated average requirements (EAR) were used as a benchmark to determine the prevalence of potential nutrient intake inadequacy, and adequate intake (AI) were used for nutrients with no available EARs. In all, 3403 senior adults aged 60 y and above and 3324 young adults aged 19 to 59 y were included in the 2014 JNHNS. Age- and gender-specific differences were observed in the mean nutrient intakes as well as the prevalence of inadequacy. Among the 22 nutrients examined, the prevalence of inadequacy for iron, vitamin C, magnesium, potassium, and folic acid in the senior adults was significantly lower than young adults, suggesting potentially healthier dietary choices by the seniors. However, there was still a considerable proportion of seniors who did not meet the requirement for key nutrients like vitamin B1 (67%), calcium (57%), vitamin A (48%), magnesium (47%), vitamin E (44%), and vitamin B6 (41%). Inadequate nutrient intake is generally more prevalent among elderly males than females for many nutrients, with the exception of iron (prevalence of inadequacy: 21% versus 42%) which could partly be explained by the higher intake recommendations for the females. In conclusion, high prevalence of nutrient inadequacy exists in older adults, with a potentially worsened picture for men. Such inadequacies could have multiple health implications including physical frailty and mental health. Further study is warranted to investigate the food consumption patterns that could explain the observed nutrient inadequacies, and to eventually develop nutrition-based solutions tailored to the needs of specific subgroups of the population.

Keywords : ageing, national health and nutrition survey, nutrients, nutrition

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