Nutrition for Older Adults

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Summary The world population is aging rapidly. Japan has the oldest population in the world, with 28% of the current population aged 65 y or older. Maintaining good nutrition is important for preventing age-related deterioration in health. Physical activity levels, energy intake, and weight tend to decrease with age. Decreased food intake increases the risk of undernutrition due to the inadequate intake of essential nutrients. The proportion of the older population that is malnourished ranges from 1% to 5% among independent older adults living in the community, and increases to 30% to 50% among residents of care institutions. Among older adults, the risk of death increases with increasing leanness. In Japan, the government pays considerable attention to the prevention of adverse health effects related to obesity among young and middle-aged adults, although the adverse health effects related to undernutrition and being underweight among older adults have been overlooked. In addition to providing nutrients, eating has important psychological and social benefits. Therefore, there is a need to pay attention to the diet and nutritional needs of older adults in Japan in order to promote and maintain their physical and mental health.

Key Words undernutrition, malnutrition, Japan, life expectancy, food intake

The global population was approximately 7 billion in 2015, and is expected to reach 10 billion by 2060. The number of older adults is increasing rapidly worldwide (1, 2). The proportion of the global population aged 65 y and older increased from 5.1% in 1950 to 8.2% in 2015, and is projected to increase to 17.8% by 2060 (Table 1).

While nutrition is essential for maintaining human health throughout life, the challenges to nutrition vary depending on one’s stage in life. Older age is accompanied by physical deterioration as individuals approach their life expectancy. Although there are large individual differences in health status, an individual’s level of independence in performing activities of daily living generally declines gradually from a relatively healthy condition to a need for long-term care as they age. Therefore, nutrition in older adults is important for slowing the rate of decline and maintaining their degree of independence.

Currently, 28% of the Japanese population are aged 65 y and older (1), making the population of Japan the oldest in the world. It is expected that the number of adults aged 75 y and older will continue to increase rapidly, which will result in an increase in the number of people requiring long-term care. In recent years, the importance of nutritional approaches to dementia, which is the main cause of the need for long-term care, and geriatric syndromes such as frailty and sarcopenia have increased.

Changes in food intake after middle age

Physical function tends to decline as individuals enter middle age, but from middle age to old age, in addition to a decrease in chewing ability, physical activity also decreases, leading to a gradual reduction in food intake. Figure 1 shows the changes in energy intake according to age and sex among the community-dwelling general Japanese population (aged 40 to 79 y at baseline) over the course of 10 y. In both men and women, energy intake decreased after the age of 40 y, showing a gradual reduction of between 7 and 34 kcal/y (gradient for each age) among men, and between 9 and 17 kcal/y among women (3). In addition, body weight, which is an indicator of energy balance, tended to decrease among men from the age of 53 y, and among women from the age of 47 y (3). These results indicate that there is a gradual reduction in food intake and body weight with age. Decreased food intake increases the risk of undernutrition because it may cause not only insufficient energy intake but also insufficient intake of essential nutrients such as proteins, vitamins, and minerals.

Undernutrition and overnutrition

Malnutrition is broadly categorized into overnutrition and undernutrition, both adversely affecting healthy life expectancy. For example, prevention of overnutrition, including obesity, is important to avoid lifestyle-related diseases such as diabetes and arteriosclerosis. On the other hand, undernutrition is closely related to frailty and sarcopenia, which are regarded as geriatric syndromes, and prevention of undernutrition is important in order to prevent adverse health outcomes.

While undernutrition is more likely to occur in lean older adults with low energy intake, even people with obesity with adequate energy intake sometimes develop undernutrition due to a deficiency in essential nutrients. Therefore, it can be difficult to determine whether
an individual is undernourished simply by looking at their physique. It is estimated that the prevalence of malnutrition ranges between 1% and 5% among independent older adults living in the community, between 20% and 30% among older adults who require long-term care at home, and between 30% and 50% among residents of institutions for older adults (4). Thus, an appreciable portion of the older adult population is malnourished.

From a life expectancy perspective, in young and middle-aged adults, the higher the degree of obesity, the higher the risk of death from any cause; however, among older adults, the all-cause mortality rate increases with increasing leanness (5). In Japan, obesity has become recognized as a risk factor that threatens healthy life expectancy since specific health checkups and guidance to prevent and improve metabolic syndrome were introduced in 2008 (6). Preventing metabolic syndrome is important for prolonging healthy life expectancy, although paying too much attention to overeating and weight gain while overlooking the dangers of weight loss may also have an adverse effect on life expectancy. There are challenges related to the development of programs to prevent underweight and undernutrition among older adults.

**Diet for mental and physical nutrition in older adults**

Having a meal is not just an act of supplementing nutrients, but an act that has various psychological and social benefits that are important for enjoying everyday life, such as enjoying the taste of food and the companionship of sharing meals with others. Considering older adults, being conscious of, and making a concerted effort to apply, these aspects is important to prevent undernutrition. Recognizing the richness and tastiness of each and every meal, rather than thinking of meals solely as an opportunity to supplement nutrients, would
help to augment the mental and physical health of older adults.

As the world ages rapidly, problems of nutrition in old age will attract more attention. Diet is a lifestyle behavior that all human beings engage in, regardless of their ethnicity, throughout their lives. Daily diet is closely related to the physical and mental health of individuals, and enriching everyday meals and preventing malnutrition in old age is a way of prolonging healthy life expectancy in populations worldwide.

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REFERENCES


