

## 論文の内容の要旨

論文題目 The role of food behaviors in frailty and sarcopenia prevention in community-dwelling older adults (地域在住高齢者のフレイルとサルコペニア予防における食行動の役割)

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Global population is aging which results in the change of epidemiology of the disease. Older adults often suffer from the process of aging with functional deterioration of multiple organ systems together with lifestyle-related diseases, geriatric syndrome and disability. It is necessary to promote healthy and independent aging to help older adults maintain their functional ability.

Frailty has become one of the most important geriatric syndromes. Frailty is defined as a state of increased vulnerability from age-associated decline in reserve and function across multiple physiologic systems. It is related to various negative health outcomes such as risk of mortality, hospitalization, development of disabilities and using long term care services. Prevention and early intervention of frailty are essential. Sarcopenia, an age-related decline in skeletal muscle, is known as one of the mediators of frailty.

Food is a part of older adults' daily lifestyle and a modifiable environmental factor for frailty and sarcopenia. It has been an interesting tool for prevention of frailty and sarcopenia especially in community setting. Although literature show that food is strongly related with these geriatric syndromes in terms of nutrients, less attention has been paid to explore the relationship

between food behaviors and whole foods with frailty and sarcopenia in older adults.

In this study, the aim was to explore the association between eating alone, one of the common food behaviors, and frailty in Study 1. This research also explored the relationship between diet in terms of whole foods or dietary pattern approach and sarcopenia in Study 2.

Two cross-sectional studies were conducted using data from the Kashiwa study from Chiba prefecture, Japan. Participants were 65 years or over older adults who were non-eligible for long term care. In Study 1, the participants eating and living status was assessed using self-reported questionnaire. Kihon Checklist was used to evaluate frail status. In Study 2, dietary patterns were created by principal component analysis. Japanese diet score was also used. Sarcopenia was evaluated by criteria from the Asian Working Group for Sarcopenia. Binary logistic regression analysis was run to explore the associations.

In Study 1, “eating alone yet living with others” was found to be associated with frailty and its domains in community-dwelling older adults. Eating and living status were associated with lower physical strength and mood in men, whereas in women these statuses were associated with lower scores for IADL, socialization, memory, and mood.

In Study 2, three dietary patterns were derived from the participants’ dietary history: DP1 (Japanese side dishes), DP2 (Japanese main dishes) and DP3 (noodles). Japanese diet score from review of previous literature was also used. Adherence to the traditional Japanese diet, which

involves high consumption of fish, soybean products, vegetables, and fruits, was associated with low prevalence of sarcopenia among older Japanese adults.

Therefore, this study newly highlighted the role of food behaviors in association with frailty in older adults. Although there are many recommendations about nutrients from food for frailty prevention and intervention, other dimensions of food such as eating with others and whole of foods aspect could affect selected domains of frailty as well. This might inspire a simple, fundamental intervention approach in community setting to multifaceted frailty, depending on older adults' gender and high-risk domains.