## FOUR EATING BEHAVIORS THAT MIGHT PREVENT METABOLIC SYNDROME ONSET IN OLDER ADULTS: COHORT STUDY

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Metabolic syndrome (MetS) is associated with cardiovascular disease and cancer, the leading causes of mortality and morbidity. Although eating behaviors may have an impact on the risk of MetS, exactly which behaviors can prevent MetS is not fully elucidated. We evaluated the onset of MetS in relation to eating behaviors among Japanese older adults aged 65 to 93. We enrolled individuals who underwent health checkups between April 2008 and March 2019, and performed a nine-year follow-up in this cohort study. Cox regression models were used to compare hazard ratios for MetS onset. Among the 2,661 older adults included, the mean age was 70.21 ± 0.089 years and 46% were women. During a mean follow-up of 1567.3  $\pm$  19.3 months, 499 candidates (18%) developed MetS. The risk of MetS was significantly low in subjects in the "often eat vegetables" and "eat more than 30 items daily" groups (hazard ratio (HR) (95% confidence interval (CI)): 0.721 (0.595-0.872), p = 0.001; and 0.690(0.545-0.874), p = 0.002, vs without the behavior, respectively). On the contrary, the risk of MetS was significantly higher in subjects in the "eat quickly" and "eat out more than twice a day" groups (HR (95% CI): 1.442 (1.208-1.721), p < 0.001; and 1.534 (1.245–1.890), p < 0.001, vs without the behavior, respectively). Four eating behaviors—regular vegetable consumption, eating more than 30 items daily, eating slowly, and refraining from eating out too often-might be beneficial with regard to preventing the onset of MetS.

# ORAL DYSPHAGIA AND ITS ASSOCIATIONS WITH NUTRITION, PHYSICAL FUNCTIONS, AND DEPRESSION FOR THE ELDERLY IN THE COMMUNITY

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Objectives: To explore the occurrence of oral dysphagia problems among elderly in community and to investigate whether the severity of oral dysphagia problems is associated with nutrition, physical functions and mental health. Methods: Trained nurses conducted a rigorous assessment of 679 elderly people living in communities in Zhuzhou. Basic personal information, The Short Form Mini Nutritional Assessment (MNASF), Activities of daily living (ADL), Patient Health Questionnaire-9 (PHQ-9) were used to assess each elderly. Oral dysphagia was assessed by means of a standardized questionnaire including clinically symptoms of oral dysphagia such as coughing and choking. Results: A total of 654 old people was enrolled in this study, including 250 (38.2%) developing the one or more symptoms of oral dysphagia, the most common symptoms were: drinking water choking (30.7%), followed by saliva (9.6%), dysphagia or pain (6.4%), food loss from the corner of the mouth (2.3%), foreign body sensation of the esophagus (1.8%), food residue (1.2%). The severity of oral dysphagia problems was linearly

associated with nutrition, physical function, depression, education level and current care status. The higher the burden of oral symptoms, the lower the self-rated health. Conclusions: The occurrence of oral dysphagia symptom was associated in a stepwise fashion with nutrition, physical function, depression, education level and current care status. In the community, the early recognition, diagnosis and treatment of oral dysphagia is an important link of reducing the mortality and improving the rehabilitation outcome. Additionally, the psychological construction in the elderly should be taken seriously by their families and community workers.

#### QUALITATIVE ASSESSMENT OF RESIDENT OBESITY IN NURSING HOMES BY MEDICAL PROVIDERS

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We present qualitative themes from an ongoing five-year AHRQ-funded project (R01HS026943) examining the various ways nursing homes provide care for residents with obesity to determine the most effective way to prevent adverse safety events for residents with obesity. Obesity is a common diagnosis among short- and long-stay residents, and in the past, nursing home administrators have reported concerns from admissions issues to negative resident outcomes. No studies have examined the medical provider's perspective on health of residents with obesity. In this abstract, we present three emergent themes from semi-structured interviews of medical providers (n=6) (nursing home medical directors, staff physicians, nurse practitioners) across the U.S. First, residents with obesity often have several complex and challenging medical conditions that require more services and health monitoring than most residents. Significant medical issues include diabetes, hypertension, cardiovascular disease, arthritis, and sleep apnea. Second, medical providers observe that it is difficult to provide daily custodial and nursing care, but the actual medical harm from substandard care is hard to quantify. Third, medical providers would like to help residents with obesity to lose weight and live healthier lives. There is, however, not an easy way to facilitate weight loss, due to limited resident physical activity, concerns about unhealthy weight loss, and difficulty changing established dietary habits of residents. These findings are limited by sample size, though themes have been consistent within the current participants. Comparing and contrasting these themes with other stakeholder groups (residents, nurse aides, administrators) interviews in the future will strengthen these findings.

## THE ASSOCIATION OF EARLY-MORNING EATING HABITS WITH HIGH NUTRIENT INTAKE BY OLDER JAPANESE ADULTS LIVING ALONE

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The consumption of essential nutrition is fundamental to maintain the health of older adults. Conventional studies

report that community dwelling older adults who live alone have the tendency to skip meals and result in low nutrition intake. However, the details regarding the dietary behavior and its association with the status of nutrition intake remain unclear. In this study, a cross-sectional analysis was conducted to explore the association between the time of meals and nutrition balance. In October 2019, questionnaire surveys were distributed to 184 participants of a lunch event dedicated to older adults living alone (Kashiwa, Japan). The time of meals, number of meals per day, consumption status of 10 food groups, and self-rated health were used for the analysis (N=165). As a result, older adults who usually ate their first meal between 5 to 8 A.M. ate three meals/day, while those who ate their first meal after 8 A.M. ate two meals/day. Those who ate their meal between 5 to 8 A.M., frequently consumed meat, fish and seafood, milk, and green and yellow vegetables compared to those who ate after 8 A.M. Self-rated health score was also high. The consumption of early-morning meals was associated with good dietary behaviors. The importance of eating breakfast has been emphasized, however, the time of the breakfast could vary among individuals. This study proposed the importance of considering the time of the meal. Development of intervention programs which encourage early-morning meal consumption might be helpful to form healthy dietary behaviors of older adults.

#### UNDERSTANDING FOOD CONSUMPTION FREQUENCIES AMONG U.S. CHINESE OLDER ADULTS

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A healthy diet is essential to various health outcomes that are common among minority aging populations. To explore frequencies and correlates of food consumption among U.S. Chinese older adults, this study used data from the Population-based Study of Chinese Elderly (PINE) collected in Chicago during 2015-2017 (N=3053). Food consumption frequencies of five food groups (vegetables, fruits, grains, protein foods, and dairy) were assessed by a validated 48-item food frequency questionnaire. All responses of consumption frequency were transformed to "times per day" and weighted by reported portion size. The average frequencies of vegetables, grains, and protein foods intake among the U.S. Chinese older adults were 2.02 (SD±1.32), 1.32  $(SD\pm0.70)$ , and 1.58  $(SD\pm0.90)$  times/day, respectively. Fruits and dairy consumption frequencies were much lower: 0.76  $(SD\pm0.70)$  and 0.48  $(SD\pm0.53)$  times/day. In addition, higher levels of education were correlated with higher consumption of all five food groups. Being female was positively correlated with frequencies of fruits and dairy intake. In contrast, poorer life quality and having more children were correlated with less intake of all five food groups. Older age, preference to speak Cantonese/Taishanese compared to Mandarin/ English, and poorer health status were also correlated with lower consumption frequencies of fruit and dairy. The study provides important dietary data of U.S. Chinese older adults and sheds light on significant socioeconomic correlates of

food consumption. More in-depth investigations are needed to clarify the sociocultural determinants of dietary behavior and how they relate to different health outcomes among the U.S. Chinese population.

## VITAMIN D SUPPLEMENTATION AND MORTALITY IN OLDER ADULTS: A SYSTEMATIC REVIEW AND META-ANALYSIS

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Web of Science, Embase, Medline and Cochrane Central Register of Controlled Trails from their inception to 14 January 2020 were searched in this review. We included randomized controlled trials (RCTs), which compared vitamin D supplementation versus placebo or no intervention and reported mortality as one of outcomes in older adults. Two review authors extracted data independently. Fifty-one articles were included in the analysis, which generated a total pooled sample of 89,977 people and 9813 deaths. These trials were pooled in a meta-analysis, and the outcomes were expressed as risk ratios (RRs) and 95% confidence Intervals (CIs). Across all studies, vitamin D supplementation was not associated with all-cause mortality (RR 0.98, 95%CI 0.92 to 1.04, P=0.48, I2=14%; 89,977 participants; data from 51 trails). Vitamin D supplementation was significantly decreased cancer mortality (RR 0.85, 95% CI 0.74 to 0.97, P= 0.02, I2=0%; 34364 participants; data from 6 trails). A subgroup analysis showed the associations between the length of vitamin D supplementation more than 3 years and all-cause mortality were statistically significance (RR 0.93, 95%CI 0.88 to 0.98, p = 0.01, I2=0%; 49336 participants; data from 17 trails). Subgroup analyses by vitamin D status, forms of vitamin D (vitamin D3, vitamin D2, alfacalcidol or calcitriol), dose showed no association with all-cause mortality. The evidence from pooled analysis of 51 RCTs undertaken in older adults shows vitamin D supplementation was not associated with all-cause mortality. More long-term trails are need to know weather vitamin D supplementation can decrease all-cause mortality in older adults.

#### SESSION 2910 (POSTER)

ADVANCE CARE PLANNING AND END-OF-LIFE ISSUES

## AN ADVANCE CARE PLANNING GROUP VISIT INTERVENTION FOR INDIVIDUALS WITH MILD COGNITIVE IMPAIRMENT

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Among older adults without cognitive impairment, a novel advance care planning group visit (ACP-GV) intervention increased ACP documentation and readiness to engage in ACP. A key question is whether an intervention can be adapted to