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## 029

### FOOD CREATINE AND HEALTH RISKS IN ELDERLY MEN AND WOMEN

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**Rationale:** No epidemiological studies so far evaluated the intake of creatine via regular diet in the elderly, neither the possible link between creatine consumption and risk of chronic medical conditions. We examined dietary intake of creatine in U.S. men and women aged 65 years and over, and evaluated the association between creatine intake and risk of self-reported medical conditions, and physical functioning/disability variables using data from the 2017–2018 National Health and Nutrition Examination Survey (NHANES).

**Methods:** Detailed dietary intake data from NHANES elderly was obtained by dietary interview component through a 24-hour dietary recall interview, with estimated individual values for total grams of creatine consumed per day for each respondent. A threshold for dietary intake of creatine used to calculate risk between creatine intake and medical conditions was set at 1.00 gram per day, with respondents were classified into two separate subpopulations: the suboptimal intake of creatine (< 1.00 g/day), and recommended intake (> 1.00 g/day). Relevant variables from Medical Conditions, Cardiovascular Disease and Health, Diabetes, Osteoporosis, Disability, and Physical Functioning questionnaires were identified from the NHANES 2017–2018 datasets.

**Results:** The NHANES 2017–2018 population included 1,500 participants aged 65 years and older, of which 1,221 individuals (627 men and 594 women) provided detailed dietary data via a dietary interview. Average creatine intake across all participants was  $0.76 \pm 0.79$  grams per day (95% CI, from 0.72 to 0.81). As much as 70% of U.S. elderly consume less than 1.00 gram of creatine per day, with about 1 in 5 individuals (19.8%) consume no creatine at all. Elderly with the suboptimal intake of creatine were found to have 2.62 times higher risk of angina pectoris (adjusted OR = 2.62, 95% CI from 1.14 to 6.01,  $P = 0.023$ ), and 2.59 times higher risk of liver conditions (adjusted OR = 2.59, 95% CI from 1.23 to 5.48,  $P = 0.013$ ), compared to older counterparts who consume > 1.00 gram of creatine per day after controlling for demographic and nutritional variables.

**Conclusion:** A majority of U.S. elderly consume dietary creatine below the amounts recommended for adults, making creatine deficiency widespread in this sensitive population. The considerable shortage of dietary creatine is associated with an increased risk of heart and liver conditions, which calls for public measures that foster diets rich in creatine-containing foods, and additional research to investigate the role of creatine in age-related diseases.

**Disclosure of Interest:** None declared.

## Best in Theme Session V - Nutritional assessment 1 030

### LOW THORACIC SKELETAL MUSCLE INDEX IS ASSOCIATED WITH NEGATIVE OUTCOMES IN 244 PATIENTS WITH COVID-19

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**Rationale:** Sarcopenia is associated with negative outcomes in critical acute conditions patients and during chronic diseases. We aimed to evaluate if low skeletal muscle index (SMI) measured at the thoracic level (T12) is associated with poor outcomes in hospitalized patients with COVID-19. **Methods:** In this retrospective cohort study, we included all patients admitted to the hospital between March 1st and June 9, 2020, from the Emergency Department, with a confirmed diagnosis of COVID-19. SMI was assessed from a transverse computed tomography (CT) image at the T12 level. We analyzed the association between SMI and mortality, admissions in intensive care unit (ICU), infections, length of stay (LOS).

**Results:** We included 244 patients, median age was 62 (20–95) years, mean body mass index was  $28.6 \text{ kg/m}^2$ , and 34% were obese patients. 102 patients (41.8%) had low SMI. On multivariable analysis, low SMI was associated with more infections (OR=1.88 [1.06–2.98]), increased LOS (OR=1.87 [1.14–3.49]) and less ICU admissions, but not associated with mortality.

**Conclusion:** SMI measured by CT at the thoracic level T12 was associated with negative outcomes in patients with COVID-19.

**Disclosure of Interest:** None declared.

## 031

### EFFECT OF COVID-19 QUARANTINE ON WEIGHT LOSS EFFORTS OF HEALTHY SUBJECTS WITH OVERWEIGHT/OBESITY

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**Rationale:** The outbreak of the COVID-19 pandemic and the mandatory quarantine due to the unpredictable emergence of the viral disease have disrupted health care in multifaceted ways. The outcome of a dietary intervention based on the Mediterranean Diet (MD) to overweight and obese subjects during and after the quarantine period in Greece has been compared and potential differences have been observed.

**Methods:** Fifty apparently healthy overweight and obese adults participated in a 12-week dietary intervention conducted in two different time periods, during (phase I) and after (phase II) the lockdown in Greece (26 and 24 subjects, respectively). Volunteers in both phases received individualized guidance along with a weekly diet plan (caloric deficit of 20% of the daily energy requirements) and were asked not to change their exercise habits. A detailed clinical examination was performed, anthropometric characteristics and biochemical parameters were measured at the first and final session.

**Results:** Decreases in body weight, body fat mass and waist circumference were observed in both groups. Participants in phase II experienced a greater weight loss compared to phase I participants ( $7.5 \pm 2.8 \text{ kg}$  compared to  $4.7 \pm 2.6 \text{ kg}$ ,  $p = 0.001$ ). A significantly larger decrease in body fat mass ( $p = 0.019$ ) and waist circumference ( $p < 0.001$ ) was also observed in phase II participants. Adherence to the MD was improved in both groups, however a trend towards a higher reduction in caloric intake and a significantly lower fat intake and less sedentary time spent weekly were observed in phase II subjects.

**Conclusion:** An energy-restricted intervention based on the MD during the COVID-19 lockdown led to a significant weight loss. However, once the lockdown was lifted, the same intervention was substantially more effective. This nationwide quarantine was associated with more fat intake and sedentary behavior and a trend towards higher energy intake.

**Disclosure of Interest:** None declared.

## 032

### CONCURRENT AND PREDICTIVE VALIDITY OF GLIM CRITERIA TO IDENTIFY UNDERNUTRITION IN HOSPITALIZED PATIENTS

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