

P79 ULTRASONOGRAPHIC MUSCLE AND SUBCUTANEOUS FAT THICKNESS AS A MEASURE OF BODY COMPOSITION AND MUSCLE FUNCTION

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Background/Aims: Intentional and unintentional weight loss are associated with loss of skeletal muscle. Protein-rich supplements are being used widely to prevent muscle loss. Currently, it is challenging to monitor the efficacy of these nutritional strategies in the community, hospitals and nursing homes. The aim was to determine correlations between local muscle and fat measurements by ultrasonography with whole-body composition and functional capacity outcomes.

Methods: Correlations between (i) thickness of biceps brachii and quadriceps muscles and adjacent subcutaneous fat measured by 2D-ultrasonography, (ii) whole-body lean and fat mass measured by Dual-Energy X-ray Absorptiometry, and (iii) hand-grip strength and time to perform five repeated chair stands were analysed in 98 individuals; 59 men 39 women, mean \pm SD age 59 ± 20 years (range 19–84 years), body weight 77 ± 13 kg (51 – 116 kg), BMI 26.8 ± 4.2 kg/m² (19.0 – 42.4 kg/m²).

Results: Thickness of biceps brachii (2.8 ± 0.1 cm) and adjacent fat (0.6 ± 0.04 cm) correlated with whole-body lean (50.7 ± 1.5 kg) and fat mass (24.2 ± 1.1 kg) respectively ($r = 0.675$, $p < 0.001$; $r = 0.622$, $p < 0.001$). Both biceps brachii thickness and whole-body lean mass correlated with hand-grip strength (32.1 ± 1.3 kg, $r = 0.638$, $p < 0.001$ and $r = 0.838$, $p < 0.001$, respectively). Thickness of quadriceps adjacent fat (1.0 ± 0.06 cm) correlated with whole-body fat mass ($r = 0.584$, $p = 0.001$). Quadriceps muscle thickness (2.6 ± 0.1 cm) did not correlate with whole-body lean mass ($r = -0.020$, $p = 0.858$). Quadriceps muscle thickness, but not whole body lean mass, correlated with repeated chair stands (9.4 ± 0.4 s, $r = -0.448$, $p = 0.003$; $r = -0.014$, $p = 0.921$, respectively).

Conclusions: Muscle and fat thickness measured by ultrasound can be considered as a suitable method to assess state of body composition in people with difficulties to measure whole-body composition with traditional Methods, such as frail older individuals and ICU patients.

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P80 RESIDENTIAL ALTITUDE AND FISH CONSUMPTION: EFFECT ON SYSTOLIC BLOOD PRESSURE IN ELDERLY: MEDIS STUDY CROSS-SECTIONAL RESULTS

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Background/Aims: Frequent consumption of fish is associated with decreased SBP levels. Both aging and living at high altitude are associated with significant increases in Systolic Blood Pressure (SBP) levels. The aim of this analysis was to examine the potential interaction between fish consumption and high altitude on SBP in elderly cohort.

Methods: Mediterranean islands study (MEDIS) recruited 2749 older (aged 65+ years) individuals from 2005–2015. Participants were selected from 21 Mediterranean islands and the rural Mani region (Peloponnese) of Greece. Dietary habits, energy intake, physical activity status, socio-demographic characteristics and clinical profile aspects (blood pressure) were measured. The altitude of the area was also recorded.

Results: In total, 81.5% of the sample resided in areas with altitudes (0–250 m above the sea level) while 18.5% in areas above the 250 m (median altitude). Residents in high altitudes consumed less fish portions (1; IQR 1–2.5) per week as compared to resident in lower altitudes (2.5; 1–2.5), $p < 0.001$. In models adjusted for gender, age, smoking, BMI and daily walking time, increased in fish consumption was independent predictor of lower SBP ($\beta = -2.028$, $p = 0.023$), but only for low altitude residents ($p = 0.976$; higher altitudes).

Conclusions: Increased fish consumption was associated with regulating

systolic blood pressure regulator for subjects residing in low but not for subjects in high altitude areas.

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P81 A SCOPING REVIEW ON FOOD INSECURITY AMONG OLDER PEOPLE IN RURAL COMMUNITIES

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Background/Aims: Nutrition is a key determinant of longevity and healthy ageing. Diet-related diseases account for 11% of the total burden of disease in Australia and significantly increase morbidity and mortality among older people. The aim of this scoping review is to examine evidence on food insecurity among older people living in rural communities.

Methods: This scoping review used Arksey and O'Malley's framework (2005). Key databases and grey literatures were searched and contact with international nutrition and dietetic bodies was made. Articles included were written in English, focussed on ageing populations (> 65 years) in non-metropolitan areas and were related to the primary question or subtopics.

Results: Malnutrition, chronic diseases and age-related physiological changes are identified as major nutrition issues for the elderly living in rural communities. Malnutrition in older populations living in rural areas is complex and exacerbated by factors that restrict food intake including food insecurity, poor dentition and reduced mobility. Interventions and programs to prevent and improve these issues are documented in the literature. Innovative interventions were examined to identify what constitutes a successful intervention, with comprehensive measurement tools to identify food insecurity and nutrition status in rural elders deemed important. Therefore, measures of nutritional status and food security in older people were reviewed and analysed to establish best practice tools.

Conclusions: This review highlights an ongoing and serious issue for rural ageing populations, and identifies best practice measurement tools and innovative interventions to address it.

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P82 MAGNESIUM INTAKE AND SLEEP SYMPTOMS: FINDINGS FROM THE JIANGSU NUTRITION COHORT STUDY OF CHINESE ADULTS

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Background/Aims: Dietary magnesium has been found to improve insomnia symptoms in clinical trials. However, little is known about the role of dietary magnesium in sleep symptoms at the population level. We aimed to investigate the associations between dietary magnesium intake and sleep symptoms over five years among Chinese residents.

Methods: Data of 1487 Chinese subjects aged 20 and above at follow up from the Jiangsu Nutrition Study was analysed. Baseline dietary magnesium was measured by 3-day weighed food records. Sleep symptoms including daytime falling asleep, sleepiness and snoring during night were self-reported using a sleep questionnaire at five-year follow up. Logistic/Poisson regression models were performed for sleep symptoms at follow up with various adjustments.

Results: The mean intake of magnesium was 332.5 mg/d. In total, 5.3% of the subjects reported daytime falling asleep, 13.2% reported daytime sleepiness, and 35.7% reported snoring during sleep. Compared with the lowest quartile of magnesium intake, the highest quartile was associated with decreased likelihood of falling asleep in women (OR 0.10; 95%CI: 0.02, 0.53) in women but not in men after adjusting for demographic, anthropometric, lifestyle factors, hypertension and food consumption (fruit, vegetable and meat). No associations were found between dietary