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ESTABLISHING FAT-FREE MASS INDEX CUT-OFFS FOR LOW MUSCLE MASS IN OLDER JAPANESE ADULTS: A GLIM-ORIENTED STUDY

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Rationale: Determining low muscle mass is central to the Global Leadership Initiative on Malnutrition (GLIM) criteria, yet population-specific fat-free mass index (FFMI) cut-offs in Asia remain undefined. This study aimed to derive sex-specific FFMI thresholds in older Japanese outpatients and assess their clinical relevance.

Methods: In this prospective study, body composition was measured using bioelectrical impedance analysis to calculate FFMI, while dual-energy X-ray absorptiometry (DXA) was employed to assess the appendicular skeletal muscle index (ASMI). Receiver operating characteristic (ROC) curve analysis determined the optimal FFMI cut-offs, with reduced ASMI assessed by DXA ($<7.0 \text{ kg/m}^2$ for men and $<5.4 \text{ kg/m}^2$ for women) as the reference standard. Fall incidence was recorded over one year to evaluate the predictive value of the identified thresholds.

Results: A total of 696 participants (mean age 76.1 ± 7.4 years; 64.8% female) were enrolled. The optimal FFMI cut-offs were identified as $<17.5 \text{ kg/m}^2$ for men and $<14.4 \text{ kg/m}^2$ for women. The areas under the ROC curves were 0.926 (95% confidence interval [CI] 0.893–0.958) for men and 0.927 (0.902–0.953) for women, demonstrating high sensitivity and specificity in detecting low ASMI assessed by DXA. During the one-year follow-up, 25.9% of participants experienced at least one fall, and individuals with FFMI values below these cut-offs had a significantly increased risk of falling (odds ratio 1.49, 95%CI 1.01–2.20, $p=0.044$).

Conclusion: The newly defined FFMI thresholds offer an accessible alternative to DXA for the clinical application of GLIM in older Japanese adults. Early detection of malnutrition using these cut-offs may improve patient outcomes and reduce the risk of functional decline.

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CLINICAL BENEFITS OF UNIQUE PEA PROTEIN FORMULAS FOR PEDIATRICS DEMONSTRATED USING REAL-WORLD EVIDENCE

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Rationale: Plant-based nutrition positively impacts clinical outcomes. Unique, organic yellow pea protein plant-based formulas (PPBPF) with prebiotic fiber are accumulating evidence of good tolerance in pediatrics. Our study describes differences in clinical outcomes in pediatric outpatients using these formulas or dairy/soy protein (DSP) formulas.

Methods: This retrospective study utilized real-world data on pediatric outpatients (1–17 years) from a closed claims database encompassing 1,400 hospitals across all US regions. Any prescription claim for a nutritional

formula (June 1, 2020, to September 30, 2023) was included, and the date of the first prescription claim was used as the index date. Patients were assigned to the PPBPF or DSP group. Risk of mortality was measured using the Charlson Comorbidity Index (CCI) score. Study outcomes included malnutrition, weight loss, use of GI medications, and a summary score of any gastrointestinal intolerance (AGII) symptom; GI symptoms included flatulence, abdominal pain, constipation, diarrhea, and nausea/vomiting. After IRB approval, unadjusted descriptive analysis was used to compare the outcomes 180 days before (pre-index) and 90 days after (post-index) formula initiation and between the PPBPF and DSP groups.

Results: The PPBPF group included 588 pediatric patients, and the DSP group had 5,834, from 60 US hospitals, with an average age of 7.8yr (SD=4.3) and 8.7yr (SD=4), respectively. Patients in the PPBPF group were sicker at baseline, with a mean CCI score of 0.5 (SD = 0.9) vs. 0.4 (SD=1.0) in the DSP group ($p\text{-value} = <0.001$). Prevalence rates of AGII were 17.5% in the 180-day pre-index period and 10.4% in the 90-day post-index period in the PPBPF group vs. 11.1% and 7.2% in DSP. More improvement was seen in the PPBPF group vs. the DSP group between the pre- and post-index periods based on a decrease in the prevalence rate of AGII despite no significant differences in GI medication use post-index (all $p\text{-values} >0.05$). Other PPBPF group pre- and post-index period prevalence rates were: malnutrition (3.2%; 1.4% = 1.6% absolute decrease), weight loss (4.6%; 1.9% = 2.4% absolute decrease), constipation (11.6%; 5.1% = 6.1% absolute decrease), and nausea/vomiting (7.7%; 4.1% = 3.4% absolute decrease). Other DSP group pre- and post-index period prevalence rates were: malnutrition (1.4%; 0.9% = 0.5% absolute decrease), weight loss (2.2%; 1.2% = 1.0% absolute decrease), constipation (6.4%; 4.0% = 2.4% absolute decrease), and nausea/vomiting (4.8%; 2.6% = 2.2% absolute decrease).

Conclusion: This study describes the largest known US cohort of pediatrics using complete, unique yellow pea protein plant-based formulas (PPBPF) as outpatients. Compared to the DSP group, the use of PPBPF was associated with a decrease in GI intolerance, without an increase in GI medication use, in a sicker pediatric population. Future research is needed to calculate a pediatric-specific acuity score in this cohort and test if the improvements in GI intolerance with the use of these yellow pea protein plant-based formulas result in decreased health care utilization in the US and globally.

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Poster Walk IV: Geriatrics, Other chronic diseases PW23

POOR APPETITE AND GDF-15 AS PREDICTORS OF INSUFFICIENT ENERGY AND PROTEIN INTAKE DURING AND AFTER HOSPITALIZATION IN ADULTS AGED ≥ 65 YEARS ACUTELY ADMITTED FOR MEDICAL ILLNESS: AN EXPLORATORY ANALYSIS OF A RANDOMIZED CONTROLLED TRIAL

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Rationale: Malnutrition is common in older adults during and after hospitalization and is linked to poor outcomes [1–2]. Anorexia of aging