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Manipulative Dexterity and Handgrip Strength are Associated with Greatest Difficulty with Multiple Meal Preparation/Consumption Tasks in Homebound Older Adults

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Background: Although homebound older adults are at increased risk for poor nutritional health and adverse nutrition-related outcomes, little attention has focused on the manual tasks that are necessary for meal preparation and consumption.

Objectives: The purpose of this study was to examine the relationship of both manipulative dexterity (MD) and grip strength (HG) to greatest difficulty in these tasks among homebound seniors who rely on home-delivered meals.

Methods: This study examined data from the baseline dietary intake and in-home assessment of MD, HG, self-reported difficulty with opening cans, milk/juice cartons or jars, lifting a cup, and opening plastic, frozen, and single-serving packages in a randomly recruited sample of 345 homebound seniors who received home-delivered meals (81% female, 49% Black, age 78.2±8.4 y, 58% lived alone).

Results: Almost 25% of the sample reported the greatest difficulty with ≥2 two meal preparation/consumption tasks (MPCT). Using adjusted logistic regression, the odds for reporting ≥2 MPCT were greater for older adults with lowest tertile of MD performance (OR 2.4, 95% CI 1.24-4.62), lowest sex-specific tertile of HG (OR 2.4, 95% CI 1.31-4.56), being female, or using medications from ≥5 therapeutic categories (OR 2.2, 95% CI 1.12-4.25). At least 70% reported not meeting ⅔ recommended intakes for calcium and vitamin D; 12.5% failed to achieve ⅔ recommended intakes in at least three of the four nutrients. Further, reporting the greatest difficulty in MPCT increased the odds for lower intake of musculoskeletal nutrients.

Conclusions: These results suggest the need to assess difficulty in meal preparation and consumption for the growing population of homebound older adults who participate in supplemental nutrition programs. The results also suggest that future efforts target improvement in MD and/or grip strength. In addition, food packaging should be evaluated to limit difficulty for individuals with limitations in MD or HG