

HUMAN NUTRITION

Title: Does Meal-based Enhancement of Protein Intake Augment Long-term Responses to Sarcopenic Obesity Reduction? – NPB #16-144

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Date Submitted: 12/4/18

Scientific Abstract: This exploratory pilot trial extends the study of meal-based protein enhancement of weight reduction in participants with sarcopenic obesity by assessing the long-term (9-month) outcomes. The long-term impact of weight loss has rarely been studied in older adults. A total of 25 obese (BMI ≥ 30 kg/m²) women ≥ 60 years with functional limitations were randomized in a 1:1 ratio to Control (C-WL) or Protein (P-WL) for a 9-month intervention. Assessments were conducted at 0, 3, 6, and 9 months for the primary outcomes of lean mass and function (6-minute walk) and secondary outcomes of Short Physical Performance Battery, body fat, waist circumference, 8 ft up and go, 30 sec chair stand, hand grip, and feasibility factors, with kidney function (GFR), glucose, and insulin assessed at 0, 6, and 9 months. The final results of the trial are pending full statistical analysis, so current findings must be considered very preliminary. Additionally, the very small size of this pilot project limits our power to detect group differences. The average weight loss achieved during the trial was 5.9% at 6 months; however, mean weight loss was only 2.9% at 9 months. Most of weight loss was as fat, with body fat (on average) reduced by about 4 kg in controls and 5.2 kg in the protein group at the 6-month point. Lean mass effects were slight in both groups (loss of < 1 kg). No detrimental changes in renal function were encountered during the trial. To summarize, the findings show that a higher protein diet with lean pork consumed twice daily is feasible, acceptable and beneficial for obese older women, both black and white. However, despite high motivation and strong dietitian support, many participants struggled in their efforts to reduce body weight. The hypothesis that a longer intervention duration would boost weight loss was not confirmed in this very small cohort. On a positive note, although amount of weight loss fell short of the goal, many participants nonetheless experienced strongly beneficial changes in their body composition. The results of this trial will contribute important knowledge to the field by establishing the efficacy, metabolic impact, and safety of increased amounts of high quality protein at every meal as a part of a long-term weight reduction intervention designed to improve physical function. Although larger trials are needed to confirm or refute our findings on weight loss success, these results bring recognition to African American women as a group with high rates of obesity and less robust response to traditional weight loss interventions.

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These research results were submitted in fulfillment of checkoff-funded research projects. This report is published directly as submitted by the project's principal investigator. This report has not been peer-reviewed.

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