

### Diet Quality, Muscle Mass, Strength and Function in Older Veterans With HIV

Galya Bigman,<sup>1</sup> Krisann Oursler,<sup>2</sup> Vincent Marconi,<sup>3</sup> and Alice Ryan<sup>4</sup>

<sup>1</sup>Baltimore Veterans Affairs; <sup>2</sup>Virginia Tech Carilion School of Medicine; <sup>3</sup>Emory University School of Medicine; and <sup>4</sup>University of Maryland School of Medicine

**Objectives:** Older adults with HIV are at a higher risk for muscle loss and physical dysfunction which may be influenced by nutritional intake. The aim of this study was to examine dietary quality and its associations with muscle mass, strength, and function in older Veterans with HIV.

**Methods:** This is a cross-sectional study of sedentary older Veterans with HIV aged  $\geq 50$  years. Participants were tested for grip strength (kg) over body mass index (BMI,  $\text{kg}/\text{m}^2$ ), gait speed (4 meters walk, m/s), and appendicular lean mass (ALM) over BMI. Dietary quality was measured by the Healthy Eating Index (HEI-2015) using data obtained from three 24-hour dietary recalls. The HEI-2015 is comprised of 13 components (e.g., vegetables, greens and beans, fruits, dairy, and proteins). Each component was scored on density out of 1000 calories and summed to a total diet quality score (0–100). The total score was divided to high (HEI  $> 64$ , top 20%) vs. low (HEI  $\leq 64$ ). Multivariable

linear regressions were developed to examine the HEI-2015 and its association with each muscle measure while controlling for age (years), race/ethnicity (Non-Hispanic (NH) Blacks vs. Whites), and BMI (only in gait speed model).

**Results:** Overall, 40 participants with mean ( $\pm$ SD) age of  $60.6 \pm 6.5$  years were included. Of those, 95% were males, 70% NH-Blacks, and mean BMI was  $28.2 \pm 5.3$ . The total dietary quality score was  $52.98 \pm 12.3$ . Most of the participants consumed sufficient proteins (87.5%) but only 50.0% included sufficient intake of seafood and plant proteins. The results indicated a lack of intake in vegetables, greens and beans, fruits, whole grain, and dairy. After adjustment, the final models showed that higher dietary quality (HEI  $> 64$  vs. HEI  $\leq 64$ ) was associated with grip strength/BMI ( $\beta = 0.37$ , 95% CI: 0.02–0.71), and did not reach statistical significance with ALM/BMI ( $\beta = 0.09$ , 95% CI:  $-0.04$ – $0.22$ ), or with gait speed ( $\beta = 0.05$ , 95% CI:  $-0.11$ – $0.21$ ).

**Conclusions:** In this sample, older Veterans with HIV tended to have a low diet quality with insufficient intake of imperative foods which is associated with reduced muscular strength. High dietary quality might be associated with improved physical function in this population that needs to be investigated in larger and prospective studies.

**Funding Sources:** Supported by the department of Veterans Affairs I01RX000667, I01 RX002790 and VA Advanced Fellowship Baltimore GRECC