In this study, we assessed sex differences in the associations of objective measures of physical activity (PA) and sedentary behavior (SB) with muscle density and myosteatosis, a measure of myosteatosis in African Caribbeans. The study included a subsample of older adult African Caribbean men (N=355, mean age 62 years) and women (N=682, mean age 59 years) from the Tobago Health Study. Compared to men, women were younger with higher BMI, more SB, less light (LPA) and moderate (MPA) PA, and lower muscle density (p<.05). MVPA/week was associated with greater muscle density in women (r=0.08, p=.044), but not significantly in men (r=-0.10, p=.12). Our novel findings indicate that the association between PA and SB with myosteatosis may differ by sex. These findings may have important implications for public health interventions targeting muscle health in African Caribbeans.
There is evidence that the association of protein intake and frailty may depend on the source of dietary protein. The mechanism underlying these associations are not clear. In this study, we explore circulating metabolites as mediators of the relationship between dietary protein and of frailty in participants of the Baltimore Longitudinal Study of Aging (BLSA). Cross-sectional analyses in 735 BLSA participants of associations between plant and animal protein intake and frailty. Usual protein intake from plant and animal sources were estimated with a Food Frequency Questionnaire (FFQ) and frailty was assessed with a 44-item Frailty Index (FI). Compared with the lowest quartile, higher quartiles of plant, but not animal, protein were associated with lower FI. Twenty-five plasma metabolites were associated with plant protein intake; of these, 15, including phosphatidylcholines, cholesterol esters, sphingomyelins, and indole metabolites mediated the association between plant protein intake and FI. The protective association between plant protein consumption and FI is mediated by lower abundance of lipid metabolites and higher abundance of tryptophan-related metabolites.