VIGOROUS PHYSICAL ACTIVITY, DEPRESSION, PRO-INFLAMMATORY CYTOKINE AND RACIAL/ETHNIC VARIATIONS IN falls

Ayse Malatyali1, Tom Cidav2, Rui Xie1, and Ladda Thiamwong1, 1. University of Central Florida, Orlando, Florida, United States, 2. The Johns Hopkins University School of Medicine, Baltimore, Maryland, United States

Physical activity plays a key role in preventing falls among older adults as it supports muscle strength and improves balance and postural control. Recent studies have revealed that physical activity modulates Interleukin-6 (IL-6) levels and reduces the incidence of falls among older adults. This study describes the relationships between vigorous physical activity, IL-6 plasma levels, depression, and falls among older adults. We conducted a cross-sectional study on Health and Retirement Study participants aged 65 and above (n= 9,942) using datasets from the 2016 interviews. Of the sample, 37.7% reported falling in the last 24 months. Mean ages were: 77.4 (8.14) years in participants who had a fall and 75 (7.31) years in participants without a fall. Participants engaging in regular vigorous physical activity were 24% less likely to have a fall than those not engaging in vigorous activity. We quartiled the IL-6 levels and presented quartile-4 as the most elevated IL-6 levels. Compared to quartile-1 (lowest), participants in quartile-3 were 24%, and those in quartile-4 were 45% more likely to fall. The effect of IL-6 was insignificant in quartile-2. Having depression was also significantly associated with falls (OR=2.40). We observed a significant inverse relationship between ethnic/racial minorities and odds of falling: Hispanics were 16%, and African Americans were 36% less likely to fall than non-Hispanic whites. The likelihood of falling among people living in rural was significantly higher than among those living in urban (OR= 1.15). Interleukin-6 may be incorporated to fall prevention interventions as an indicator of fall risk.