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POSTER PRESENTATIONS

Epidemiology / Risk and protective factors in MCI and dementia

Examination of a composite walking measure to inform physical activity guidelines for improving or maintaining cognitive functioning

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Abstract

Background: Fewer than half of all U.S. adults achieve recommended levels of aerobic activity (150 minutes or more at moderate intensity) (CDC, 2013; USDHHS, 2018). Information related to frequency, dose, duration, and intensity of walking needed to positively impact cognitive function in older adults remains unclear in current U.S. Physical Activity Guidelines (Piercey et al., 2018; Paterson et al., 2010). A paucity of studies have been conducted which examine the association between physical activity (PA), much less PA types, and cognitive function, using a longitudinal, population-based approach with a racially diverse sample, which limits generalizability of existing findings. Self-report PA measures often evaluate types of walking separately (e.g., walking for exercise, leisure time, occupational, transportation-related), without considering total effect of all types of walking on cognitive function. A composite walking measure could provide a more comprehensive picture of perceived daily walking. We examine the association between composite walking and cognitive function and perceptual speed among participants in the Chicago Health and Aging Project (CHAP) over time.

Method: CHAP is a longitudinal, population-based study, which examined risk factors of Alzheimer's Disease and chronic conditions among diverse older adults (Bienas et al., 2003). Data collection included self-report walking frequency and duration, demographics, chronic conditions, cognitive activities, APOE ϵ4, and cognitive function during three-year cycles. A composite walking measure was developed. Composite walking was divided into three categories determined by sample size: no walking, $\leq$ 105 minutes/ week, and >105 minutes/ week of walking. Mixed effects regression analyses were conducted to test the association between walking and cognitive function and perceptual speed.

Result: The sample consists of N=4,320 CHAP participants (Black/ African American: 65%; Female: 65%; Mean Education: 13 years; Mean Age: 75 years). Findings show that composite walking had a statistically significant association with global cognitive function (category 2 β=.0084, p=.0389; category 3 β=.0099, p=.0187) and perceptual

speed (category 2 β=.0117, p=.0164; category 3 β=.0162, p=.0013), after controlling for covariates.

Conclusion: Although it is best to follow PA guidelines, walking for lesser than the recommended amount may still be beneficial for cognitive function, which is useful for promotion of PA among sedentary older adults.