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In addition to being a risk factor for cardiovascular disease, type 2 diabetes, and obesity, short sleep duration is related to an increased risk of cognitive impairment in older adults. Individuals at lowest risk of cognitive impairment are those with adequate sleep duration of 7-8 h/night. Short sleep may induce cognitive impairment in older adults by promoting Alzheimer's disease pathology directly. Indeed, recent studies showed that inadequate sleep is associated with Alzheimer's disease biological markers, including cerebrospinal fluid measures of beta amyloid ($A\beta$) and measures of fibrillar amyloid derived from positron emission tomography. Intervention studies demonstrated increased circulating plasma levels of $A\beta$ in young adults and increased fibrillar brain $A\beta$ in older adults following one night of sleep deprivation. However, there are no studies to date that have evaluated the impact of long-term, sustained short sleep duration, mimicking the widespread sleep behavior of U.S adults, on cognitive function in older adults, and the mediators and moderators of the effect of sleep deprivation on cognitive outcomes are poorly understood. The proposed supplementary study examines the effect of sleep restriction on cognitive outcomes in older adults and tests the possibility that cerebral atrophy, cerebrovascular disease, and hormonal markers mediate this effect.