the patients to engage with the interactive VR elements using a point-and-pinch gesture approach. We anticipate that the VR experiences hold the potential for improving the interactions between persons with dementia and caregivers, as well as enhancing the reminiscence experiences to promote the maximal therapeutic benefit of patient's recovery.

COLLECTION OF FREE-LIVING ACCELEROMETRY DATA IN LARGE CLINICAL STUDIES BEFORE AND DURING THE COVID-19 PANDEMIC

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The recent COVID-19 pandemic had a substantial impact on clinical research, including recruitment and follow-up visits in new and ongoing studies, especially affecting ones focused on older, at-risk adults. As the objective assessment of physical activity with wearables is usually initiated during in-person visits, the collection of these data experienced substantial, unplanned gaps. We report the frequency of data collection (visits-per-month) in studies collaborating with the Accelerometry Resource Core (ARC) at Johns Hopkins Center on Aging and Health. We focus on two, NIH-funded, studies that implemented the ARC accelerometry protocol. The Atherosclerosis Risk in Communities that stopped visit 8 enrollment in early 2020 and reinstated in 2021 for visit 9, and the Peripheral Artery Disease Study of SOL that started the data collection in early 2021, first via the mail-in protocol, then shifting towards in-clinic visits. Through March 2020, ARC processed an average of 125 new accelerometry per month (SD = 54). There was no new data collected for the remainder of 2020. The collection restarted in January 2021 with an average of 55 (SD = 43) files a month in the first and 112 (SD = 53) in the second quarter of 2021. A total of 573 new accelerometry observations were collected across both studies since the first wave of COVID-19 in March 2020 including 282 observations collected exclusively using a mail-in protocol. This recovery of data collection demonstrates that wearable devices allow for safer, remote assessment of physical activity, function, and sleep eliminating the need for in-person visits.

COMMUNICATION DIFFICULTIES AND THEIR ASSOCIATION WITH CAREGIVING BURDENS IN APHASIC DEMENTIA

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Primary progressive aphasia (PPA) is a clinical dementia syndrome for which there is no effective disease-modifying treatment. Impairments in language are the primary and persistent symptoms, and severely limit participation in everyday activities and family conversations. Despite this, there are no published studies examining the objective relationship between conversation difficulties and caregiving burden in PPA. We tested the hypothesis that the severity of care partner perceived conversation difficulties predicts caregiving burden using the Perception of Conversation Difficulty-Dementia Alzheimer's Type and the Montgomery Borgatta Caregiving Burden Scale. The analysis included baseline data from 78 care partners (62% female) enrolled in the Communication BridgeTM-2 randomized control clinical trial of a speech-language intervention for PPA. Care partners had a mean age of 64.5 years (SD=10.76) and a mean relationship duration with the PPA participant of 38.6 years (SD=15.29). Eighty-six percent were spouses, 5% were adult children, and the remaining 9% were friends or siblings. Higher ratings of conversation difficulties were associated with increased caregiving burden for both objective burden ($p < 0.001$) and subjective stress burden ($p < 0.001$). The relationship between conversation difficulties and objective burden was mediated by dependence in activities of daily living and care partner depression, whereas the relationship with subjective stress burden was mediated by depression only. This is the first large scale study of care partner reported conversation difficulties and caregiving burden in PPA. The finding that conversation difficulties have a direct relationship with caregiving burden is an important consideration for interventions and outcome measurement in PPA.

CONCURRENT AND PREDICTIVE ASSOCIATIONS BETWEEN THE LIFE'S SIMPLE 7 & BRAIN STRUCTURE IN MIDDLE-AGE AND EARLY-OLD AGE

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American Heart Association's (AHA) Life's Simple 7 (LS7), an index of cardiovascular health risks, has been associated with worse brain outcomes but few examined this relationship in midlife. We examined whether LS7 scores at midlife were associated with brain morphometry in early old age. Participants were 471 men who participated in the Vietnam Era Twin Study of Aging. The LS7 index was assessed at mean age 62 (range 55-66) and 68 (range 61-71) and included smoking, physical activity, diet, body mass index, cholesterol, glucose, and blood pressure. Each factor was coded, per AHA criteria, on a 3-point scale (0/poor-2/ideal) and summed to create a composite score (0-14). At mean age 68, participants underwent structural magnetic resonance imaging, which was used to create the previously validated brain measures. Scores included: the ratio of abnormal white matter to white matter, and two Alzheimer's disease brain signatures (cortical thickness/volume signature and a mean diffusivity (MD) signature). Analyses controlled for age, education, income, ethnicity, and APOE genotype. Concurrently at mean age 68, the LS7 was associated with cortical thickness/volume ($F=4.85$, $p = .028$), MD ($F=10.89$, $p = .001$) signatures and abnormal white matter ratio ($F=14.04$, $p < .001$). Prospectively, the LS7 at mean 62 was significantly associated with age 68 cortical thickness/volume ($F=5.08$, $p = .025$) and MD ($F=5.54$, $p = .019$) signatures but not with abnormal white matter ratio. These results suggest that prevention strategies that promote heart healthy behaviors could have implications for healthy brain aging.