

target. Secondary analyses from the Fam-FFC study describe the incidence and pharmacologic management of pain, and its association with physical function, delirium, and behavioral and psychological symptoms of dementia (BPSD). The sample (N=299) was mostly female (62%), non-Hispanic (98%), and Black (53%), with a mean age of 81.6 (SD=8.5); 166 (56%) received pain medication, whereas 40% (n=43) of 108 individuals who demonstrated pain did not receive analgesics. Regression analyses showed that, controlling for age, gender, cognition, and comorbidities, pain was associated with function ( $t = -3.2, p = .001$ ), delirium ( $t = 5.0, p < .000$ ), and BPSD severity ( $t = 2.3, p = .023$ ). Findings suggest pain may be undertreated in hospitalized PWD but should be considered to optimize function, decrease delirium, and prevent or decrease BPSD.

#### PHYSICAL ACTIVITY IN HOSPITALIZED PERSONS WITH DEMENTIA: FEASIBILITY AND VALIDITY OF THE MOTIONWATCH 8

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Interventions to prevent functional decline in hospitalized persons with dementia (PWD) require objective measures of physical activity (PA). This secondary analysis described PA using MotionWatch 8 actigraphy and considered the feasibility and validity of the MotionWatch 8 in hospitalized PWD. In the first 320 PWD enrolled in the Fam-FFC study, 261 agreed to wear a MotionWatch for 24 hours within 48 hours of admission. Minutes were recorded in sedentary ( $\bar{x} = 1767.35, SD = 1327.43$ ), low ( $\bar{x} = 202.52, SD = 127.78$ ), moderate ( $\bar{x} = 7.93, SD = 25.80$ ), and vigorous activity ( $\bar{x} = .85, SD = 4.50$ ). Controlling for age, gender, race and comorbidity, counts of activity were significantly associated with ADL function ( $t = 4.3, p < .001$ ). Sedentary ( $t = -3.9, p < .001$ ), low ( $t = 2.8, p = .006$ ), and moderate ( $t = 3.0, p = .003$ ) activity, but not vigorous activity were significantly associated with ADL function. MotionWatch 8 appears feasible and valid when evaluating PA among hospitalized PWD.

#### A COMPARISON OF SYMPTOMS IN HOSPITALIZED AFRICAN AMERICAN AND WHITE PERSONS WITH DEMENTIA

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There exist significant race disparities in the prevalence of dementia, with black persons with dementia (PWD) showing higher co-morbidity and more frequent hospitalizations, yet little is known how clinical presentations compare. This study compared physical function, delirium, depressive symptoms, and behavioral and psychological symptoms of distress (BPSD) in black and white PWDs when hospitalized. A multivariate analysis of covariance showed that, controlling for age, gender, cognitive status, and comorbidities,

black PWD had more delirium (mean= 3.8, SD= 2.9) as compared to white PWDs (mean=2.4, SD= 2.2,  $F=4.8, p = .029$ ). Additionally, black PWD had more depressive symptoms (mean= 11.7, SD= 6.7) as compared to white PWD (mean = 9.0, SD= 5.2,  $F=6.6, p = .011$ ), and less improvement in functional status admission to discharge (mean =12.4, SD= 18.9) as compared to white PWD (mean=17.8, SD=18.8,  $F=12.3, p = .001$ ). There were no differences in BPSD. Continued research examining factors influencing differences in race cohorts is warranted.

### SESSION 7090 (SYMPOSIUM)

#### LARGE-SCALE MEASUREMENTS OF PHYSICAL ACTIVITY WITH WEARABLE DEVICES: AN INTERNATIONAL PERSPECTIVE

Chair: Jacek Urbanek  
 Co-Chair: Jennifer Schrack  
 Discussant: David Roth

In recent years the popularity and application of both research- and consumer-grade wearable physical (PA) activity monitors have witnessed substantial growth in large observational studies and clinical trials. For example, the NHANES and UKBiobank, have collected accelerometry data on thousands of participants contributing to the reputation of wearable technology overall as well as in aging-oriented research. As a result, more aging-focused studies including the Baltimore Longitudinal Study of Aging, Maastricht Study, Finnish Retirement and Aging study, and the National Health and Aging Trends Study, along with clinical trials have introduced accelerometry protocols into their design. The symposium focuses on challenges in the implementation of the objective measurements of PA into large studies on older adults. We will discuss the design of successful projects held and/or completed in the United States and Europe including: (1) types of devices, (2) size of datasets, (3) steps necessary for the successful device implementation, (4) data management and (5) statistical analyses. We will also present primary, PA-related findings in each study, together with funded or planned follow-up work. Collectively, these presentations will improve understanding of the technology and effort necessary for the successful application of objective PA monitoring and the resulting data analysis, providing a better context for investigators in the field of aging who want to introduce wearable devices into existing and upcoming research. The discussion will focus on the future of these technologies in the context of geriatric medicine and gerontology and the consequent steps essential for their best utilization and further expansion.

#### THIGH-WORN ACCELEROMETER DATA IN THE MAASTRICHT STUDY

Annemarie Koster, *Maastricht University, Maastricht, Limburg, Netherlands*

This study describes the use of thigh-worn accelerometers to collect high-quality data on sedentary time and physical activity in the Maastricht Study, a prospective cohort study in the Netherlands. Data have been collected in 9000 participants, aged 40-75 years, 49% women, and 25% has type 2 diabetes by design. All participants were asked to wear an