

# Abstracts

## GSA Annual Scientific Meeting 2019

Abstracts are arranged numerically by session and in the order of presentation within each session.

Abstracts are published as received.

### SESSION 500 (PAPER)

#### ADVANCEMENTS IN DEMENTIA AND ALZHEIMER'S DISEASE RESEARCH

##### BRAIN FITNESS INTERVENTION ON KNOWLEDGE AND WORRIES ABOUT ALZHEIMER'S: A RANDOMIZED CONTROLLED TRIAL

Kaipeng Wang,<sup>1</sup> Fei Sun,<sup>2</sup> Qiuling An,<sup>3</sup> Yanfei Han,<sup>3</sup> and Yi Zhou<sup>3</sup>, 1. *Texas State University, San Marcos, Texas, United States*, 2. *Michigan State University, East Lansing, Michigan, United States*, 3. *East China Normal University, Putuo, Shanghai, China*

As one of the world's fastest aging countries, China's growing prevalence of Alzheimer's and related dementias (ADRD) poses concerns among older adults. Lack of knowledge about ADRD and excessive worries about ADRD can cause cumulative stress and threaten physical and psychological well-being of older adults. We conducted a randomized controlled trial to examine the effectiveness of a Brain Fitness Intervention (BFI) on the knowledge and worries about Alzheimer's at three senior residential care facilities in China. Ninety older adults aged 60 and above underwent randomization. Fifty participants in the intervention group received eight weekly BFI sessions, including Tai Chi exercise, experiential learning, and group discussions. The primary outcomes were the changes from baseline to Week 8 in the scores on the ADRD knowledge scale (ranging 5–50) and worry scale (ranging 5–45). Twenty-seven participants withdrew from the study. Intent-to-treat analysis showed that the estimated mean change in knowledge on ADRD was 4.26 in the treatment group and -1.52 in the control group ( $p < 0.001$ ). The estimated mean change in worries about ADRD was -10.25 in the treatment group and -2.9 in the control group ( $p < 0.001$ ). Results remained robust in sensitivity analysis adjusting for study sites and baseline characteristics. Heterogeneity analysis showed that the treatment effect became stronger with the increase of age. Findings support the effectiveness of BFI in increasing ADRD knowledge and reducing worries among Chinese older adults. Future trials with larger sample sizes will be needed for more conclusive results.

##### MY MESSAGE: CUSTOMIZED VISUAL CUES FOR PERSONS WITH DEMENTIA USING ADAPTIVE DISPLAY TECHNOLOGY

Michael Skrajner,<sup>1</sup> John Zeisel,<sup>2</sup> gregg Gorzelle,<sup>2</sup> Tom Albright,<sup>3</sup> and Sergei Gepshtein<sup>3</sup>, 1. *Hearthstone Alzheimer Care, Woburn, Massachusetts, United States*, 2. *Hearthstone, Woburn, Massachusetts, United States*, 3. *Salk Institute, La Jolla, California, United States*

The My MESSAGE™ (MM) intervention visually conveys individualized messages to persons with dementia (PWD) on adaptive electronic displays in strategic locations activated

by an approaching individual. MM aims to improve quality of life (QoL) and reduce challenging behaviors, especially repetitive questioning and wayfinding difficulties. For example, for a PWD who repeatedly asks when his/her daughter will visit, the monitors display a reassuring message, such as, "I love you and will visit soon." A PWD who has trouble finding his/her bedroom, receives directions on the monitor. MM was tested in a Phase 1 STTR. The sample consisted of 22 PWD: 10 in Experimental Group (EG) and 12 in Control Group (CG). MM had positive immediate impacts on EG participants, with 100% exhibiting positive affect, 80% reduced agitation, 60% reduced anxiety, and 50% improved mood. MM had positive longer-term/generalized impacts on PWD, as well. For the CG, QoL (based on the Dementia Quality of Life Scale) tended to decline from baseline to post-treatment for the CG ( $p=0.053$ ); with no decline in the EG. Agitation (based on the Cohen-Mansfield Agitation Inventory) tended to increase in the CG ( $p=0.057$ ); no change was found in the EG. There was a significant decrease in neuropsychiatric symptoms (based on the Neuropsychiatric Inventory-Nursing Home) for the EG ( $p=.040$ ); no change was detected for the CG. The results suggest that MM is worthy of further development and evaluation in a planned Phase 2 study.

##### OBJECTIVELY MEASURED SLEEP CHARACTERISTICS OF OLDER ADULTS WITH AND WITHOUT ALZHEIMER'S DISEASE

Alex Laffer,<sup>1</sup> Hilary J. Hicks,<sup>1</sup> Genna Losinski,<sup>1</sup> and Amber Watts<sup>1</sup>, 1. *University of Kansas, Lawrence, Kansas, United States*

Older adults commonly experience disturbed sleep such as difficulty initiating or maintaining sleep. Older adults who experience impaired sleep are at increased risk for cognitive decline or developing Alzheimer's disease (AD). Research has shown that people with AD experience changes in sleep patterns, however, these changes are not well characterized. To better understand sleep in an older adult population with and without AD, the present study aimed to describe and compare objective sleep characteristics in both. Participants were older adults (126 with and 41 without AD) who wore an ActiGraph GT9X monitor on their non-dominant wrist for 7 days in a free-living environment. Results suggest that, compared to those without AD, participants with AD spent significantly more time in bed,  $t(165) = -4.37, p = .001$ , slept for longer durations,  $t(165) = -2.39, p = .044$ , and had less efficient sleep,  $t(165) = 2.71, p = .007$ . Participants with AD also had significantly greater sleep onset latency, more time awake after sleep onset, longer awakening lengths, and tended to arise later in the morning (all  $p \leq .016$ ). No differences were found between the groups in age, bedtime, or the number of awakenings during the night. These findings add to our understanding of the sleep disturbances experienced by older adults with and without AD. Significant group differences suggest that interventions may be

necessary in treating sleep disturbances for older adults with and without AD. Future studies should examine sleep longitudinally to understand risk factors related to AD.

#### **TASK-SPECIFIC METACOGNITIVE ACCURACY DECLINES ACROSS THE DEMENTIA-ALZHEIMER'S TYPE SPECTRUM**

Annalise M. Rahman-Filipiak,<sup>1</sup> Arijit Bhaumik,<sup>2</sup> Bruno Giordani,<sup>3</sup> Henry Paulson,<sup>3</sup> and Benjamin M. Hampstead<sup>1</sup>, 1. *University of Michigan, Ann Arbor, United States*, 2. *Michigan Alzheimer's Disease Center, Ann Arbor, Michigan, United States*, 3. *University of Michigan, Ann Arbor, Michigan, United States*

Subjective cognitive complaints (SCCs) remain part of the diagnostic criteria for amnesic mild cognitive impairment (aMCI), the prodromal stage of dementia - Alzheimer's type (DAT), despite weak relationships between self-reported and objectively-measured functioning. Most metacognitive measures focus on ratings of global retrospective memory rating only; greater subtlety in measurement of SCCs is required. Similarly, it is critical to identify the disease stage at which the clinical utility of SCCs is nullified by impaired insight. This study aims to evaluate group differences in (a) task-specific metacognitive ratings, and (b) the accuracy of these ratings in individuals diagnosed as cognitively intact (CI), with aMCI, or with DAT. 99 older adults (M-age = 69.43, SD-age = 6.98; M-edu = 15.54, SD-edu = 2.47; CI: n = 50, aMCI: n = 34, DAT: n = 15) enrolled in the University of Michigan Memory and Aging Project rated their performance on the Object Location Touchscreen Task (OLTT), an ecologically valid memory measure. One-way analysis of variance (ANOVA) revealed that individuals with aMCI-multiple domain or DAT rated their memory performance similarly to CI individuals, though the aMCI-single domain group rated themselves as more impaired. Bivariate Pearson's r correlations demonstrated a decline in the strength of the relationship between task-specific metacognitive ratings and actual OLTT memory performance with increasing diagnostic severity. These findings suggest a decline in insight on task-specific memory ratings across the DAT spectrum, and call into question the use of self-reported SCCs as a diagnostic tool in later stages of disease progression.

#### **THE LEAD GUIDE: LIFE PLANNING IN EARLY ALZHEIMER'S AND DEMENTIA**

Kara B. Dassel,<sup>1</sup> Katherine Supiano,<sup>1</sup> Rebecca Utz,<sup>1</sup> Sara Bybee,<sup>1</sup> and Eli Iacob<sup>1</sup>, 1. *University of Utah, Salt Lake City, Utah, United States*

To address the characteristics of Alzheimer's disease and related dementias (ADRD) that complicate end-of-life (EOL), we created and validated a dementia-specific EOL planning instrument. This instrument can be used to facilitate discussions and provide documentation of EOL values and care preferences prior to loss of decisional capacity. Instrument development used a mixed-method design that included: a) conducting a series of focus groups (healthy adults, persons with early-stage ADRD, and dementia caregivers) to develop and confirm content, comprehensiveness, and usability, b) evaluation by content experts to verify instrument utility in clinical practice; and c) conducting a national survey of healthy older adults and adults with early-stage ADRD to evaluate instrument psychometric properties. We describe the expansion of the instrument from survey tool into a user-friendly

guide: "The LEAD Guide" or Life-Planning in Early Alzheimer's and Dementias Guide. We describe the utility of the LEAD Guide for persons planning ahead for the possibility of ADRD, those with MCI and their families, for providers to use with patients and families, and for researchers studying the EOL preferences and values of persons in these populations. Instructions specific to each user group are health literacy appropriate, and include a glossary of terms. Age-friendly graphic design and availability in both print and e-versions enhance utility. The LEAD Guide can be utilized to help inform EOL care decisions and ensure that they align with the patient's values and may serve as the basis of an intervention to support choice in persons with dementia.

#### **SESSION 505 (PAPER)**

##### **CURRENT WORKFORCE INITIATIVES IN GERIATRICS**

#### **ARE YOU READY FOR CHANGE? FACTORS ASSOCIATED WITH COMMITMENT TO CHANGE IN CLINICAL PRACTICE**

Jasleen K. Chahal,<sup>1</sup> Kimberly Northrip,<sup>1</sup> and Dena Silva<sup>2</sup>, 1. *UK HealthCare CE Central, Lexington, Kentucky, United States*, 2. *Incedo - University of North Texas Health Science Center, Fort Worth, Texas, United States*

Commitment to Change (CTC) has been shown to be an effective performance measure of continuing professional development (CPD) training, in that 50-67% of providers choosing CTC also made behavioral changes in clinical practice (Domino et al. 2011; Perkins et al., 2007). However, very little is known about the factors that are associated with a learner committing to practice change. This study presents findings from a retrospective observational study that compared trends across various health profession, demographics, and activity-type categories to identify learner characteristics that may lead to higher CTC responses. Learner data from 2014 -2017 was obtained from two different continuing education office databases. The combined dataset contained 68,365 evaluations from 26,508 learners, of which 22.8% wrote a CTC. At both sites, CTC was more likely if the activity was enduring or charged a fee and less likely for an RSS (p<0.001). Results indicate that CTC varies based on provider demographics, such as profession and specialty. Allied health providers (32.4-37.5%) and health educators (36%) were most likely to make a commitment, followed by nurses (28.6%), physicians (23.9%), pharmacists (14.9%), and dentists (9.1%). Physician specialties and provider region also varied with the highest CTC by geriatricians (50%) and occupational medicine providers (42.3%) and the lowest rates of CTC found in the southeast region. Results of the study will help inform the development and implementation of future CPD in order to successfully engage learners in committing to change clinical practices.

#### **ATRA COMPETENCY STUDY: PROMOTING DEVELOPMENT OF RECREATIONAL THERAPISTS SERVING OLDER ADULTS**

Martha E. Kemeny,<sup>1</sup> Brent Hawkins,<sup>2</sup> and Heather Porter<sup>3</sup>, 1. *Slippery Rock University, Slippery Rock, Pennsylvania, United States*, 2. *Clemson University, Clemson, South*