PREDICTORS OF POSITIVE OR NEGATIVE REACTIONS TO LEARNING ALZHEIMER'S BIOMARKER RESULTS

Claire Erickson,[1] Nate Chin,[2] Erin Jonaitis,[2] Fred Ketchum,[2] Carey Gleason,[2] and Lindsay Clark,[1] *1. University of Wisconsin-Madison, Madison, Wisconsin, United States, 2. UW Madison, Madison, Wisconsin, United States*

With improved detection of Alzheimer's disease and biomarker accessibility, more adults with no or mild symptoms may learn their AD biomarker results. Yet, potential psychosocial impact of learning AD biomarkers is not well understood. In a phone survey, we assessed potential reactions after learning about a hypothetical positive AD biomarker result. Data were collected from cognitively healthy participants (n=334, mean age=64.8±7.7) enrolled in longitudinal AD studies. Exploratory factor analysis identified five latent factors following a hypothetical positive biomarker result: advanced care planning, lifestyle changes to reduce dementia risk factors, psychological distress, subjective cognitive complaints, and stigma. Using linear regression, we found that predictors of potential pessimistic reactions (distress, cognitive complaints, stigma) included higher trust in research (Distress:b:0.04, p:0.04), no dementia family history (Stigma:b:-0.30,p:0.04), poorer memory self-rating (Cognitive complaints:b:-0.19,p:0.02), and Black racial identity (Cognitive complaints:b:0.30,p:0.02, Stigma:b:0.40,p:0.003). Predictors of potential optimistic reactions (advanced care planning, lifestyle changes) included more trust in research (Planning:b:0.07,p<0.0001) and Black racial identity (Planning:b:0.38,p:0.003), as well as younger age (Lifestyle:b:-0.02,p:0.02) and belief in AD controllability (Planning:b:0.22,p:0.003, Lifestyle:b:0.23,p:0.002). Concern about developing AD was associated with increased likelihood of all potential reactions. While AD concern associates with optimistic and pessimistic potential reactions, specific factors of family history, racial identity, trust, belief in AD controllability, and memory rating differentially predict each of the potential outcomes of learning AD biomarker results. These findings may help target education efforts to prepare and reduce risk of negative reactions for cognitively healthy adults who learn their AD biomarker results.

PROTECTION AGAINST APOE4-ASSOCIATED AGING PHENOTYPES WITH A LONGEVITY-PROMOTING INTERVENTION

Cassandra McGill,[1] Amy Christensen,[2] Wenjie Qian,[2] Caleb Finch,[3] Berenice Benayoun,[2] and Christian Pike,[2] *1. University of Southern California, Gardena, California, United States, 2. University of Southern California, University of Southern California, California, United States, 3. University of Southern California, Los Angeles, California, United States*

Two of the primary risk factors for late onset Alzheimer's Disease (AD) are aging and APOE genotype. While the causal relationship between aging and AD is not well defined, there are strong leads from shared phenotypes such as decreased metabolic function and increased inflammation. APOE genotype may be linked to AD phenotypes through the regulation of aging processes. The NIA Interventions Testing Program (ITP) recently found that 17α-estradiol (17αE2) treatment increases rodent lifespan. Since 17αE2 acts upon systemic and neural pathways associated with AD pathology, we propose that 17αE2 may be a pleiotropic intervention strategy. Further, because APOE4 is associated with a senescent phenotype, 17αE2 may have APOE genotype-specific effects. Using 10-month-old APOE3 or APOE4 targeted replacement male mice maintained on normal chow with and without 14.4 ppm 17aE2 for 20 weeks, our initial results indicate genotype differences in the efficacy of 17αE2 across multiple outcomes. APOE4 mice exhibited an aged phenotype compared to APOE3, with APOE4 mice having a higher frailty index; however, 17αE2 treatment reduced the frailty index most strongly in APOE4 mice. APOE4 mice were impaired across multiple metabolic measures including body weight, plasma leptin, and hepatic steatosis. 17αE2 significantly attenuated the APOE4 metabolic phenotype. These data confirm and extend prior findings that APOE4 is linked to progeroid effects both peripheral and neural outcomes associated with AD risk. Importantly, 17αE2 significantly improved a range of measures, but showed the strongest effects in the APOE4 genotype. This research was funded by the Cure Alzheimer's Fund.

RACIAL DISPARITIES IN HOSPITALIZATION EXPENDITURES OF OLDER ADULTS IN SINGAPORE

Cynthia Chen,[1] Xueying Guo,[2] Hwee Lin Wee,[2] and Kelvin Bryan Tan,[3] *1. National University of Singapore, Singapore, 2. National University of Singapore, Singapore, Singapore, 3. Ministry of Health, Singapore, Singapore*

The World Population Prospects 2019 reports that the proportion of people who aged 65 and above takes up 9 per cent globally in 2019, reaching up to 16 per cent by 2050. Asia has the fastest rise: from 1 in 9 people aged 65 and above to 1 in 4 in 2050. Rapid growth in older adults has strong implications for diseases and healthcare expenditure. For Singapore, the transition from 'ageing society' (7% seniors) in 1999 to 'super-aged society' (20% seniors) in 2026 is projected to take 27 years, much faster than Japan's 36 years. We used the Singapore Multi-Ethnic Cohort (MEC) of 14,465 subjects aged 21 to 94, and the Future Elderly Model (FEM) microsimulation model to project disease burden and hospitalization expenditures to 2050. We found that Chinese females had the highest life expectancy of 86.0 years, followed by Indian and Malay females with 80.4 and 75.6 years respectively. In all racial groups, women lived longer than men by 5-7 years. Cumulative hospitalization expenditures of older adults aged 51+ was US$69,500 for Chinese, US$67,600 for Malays and US$86,100 for Indians; US$71,200 for males and US$70,700 for females. The increased hospitalization spending for all three ethnic groups was due to the underlying manifestation of chronic diseases, including diabetes, hypertension, heart disease and stroke. Variations in environmental risk factors such as diet, cigarette smoking and physical activity across ethnic groups may contribute to racial differences in chronic diseases and disability. Therefore, targeted interventions are needed to reduce racial disparities.

RACIAL SEGREGATION AND MENTAL HEALTH SERVICE USE BY OLDER ADULTS

Kyeongmo Kim,[1] and Denise Burnette,[2] *1. Virginia Commonwealth University, Henrico, Virginia, United States, 2. Virginia Commonwealth University, Virginia Commonwealth University, Virginia, United States*

Older adults living in racially segregated neighborhoods often lack access to mental health care. This study assessed the role of racial segregation in mental health service use and examined