factors may contribute to sex differences in ADRD. Using the Health and Retirement Study (N = 9908, European ancestry), a US panel-cohort study, the current analysis leverages Mendelian randomization techniques to assess sex-specific inferred causality of depressive symptoms on odds of dementia. All analyses assess most recent cognition and account for sex, education, study cohort, age and year of most recent cognition visit, and genetic ancestry principal components. A one standard deviation increase in depressive polygenic score was associated with 1.11 times higher odds of dementia (95% confidence interval: 1.02-1.21) relative to normal cognition. Each additional endorsed depressive symptom was associated with 1.13 times higher odds of dementia (95% confidence interval: 1.09-1.18) relative to normal cognition. Using the depression genetic instrument, a significant inferred causal relationship was observed between depressive symptoms and dementia (P=0.01, 1.73 odds ratio, 95% confidence interval: 1.12-2.67). When stratified by sex, this relationship was only significant in females (P=0.02, 1.76 odds ratio, 95% confidence interval: 1.08-2.87). These findings demonstrate that depressive symptoms are likely causally related to dementia, and this relationship is most pronounced in females.

DEPRESSION AND PSYCHOLOGICAL WELL-BEING AS DISTINCT CONSTRUCTS: MUTUALLY EXCLUSIVE ASSOCIATIONS WITH BIOMARKER

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Despite increasing emphasis on assessing the mental health of older adults, there has been inconclusive evidence on whether depression and psychological well-being (PWB) are fundamentally distinct constructs or representations of the opposite ends of the mental health spectrum. To instantiate either hypothesis, investigation of the associations between mental health scales and biomarkers have been proposed. First, we assessed depressive symptoms and PWB in community-dwelling older adults (N=59, mean age=67) using the Self-Rating Depression Scale (SDS) and Ryff's Scale of PWB (comprising six sub-scales). We measured a wide range of immune markers employing ELISA and flow cytometry. Subsequently, we used principal component analysis (PCA) to aggregate and derived biomarker factor scores. Lastly, multiple linear regressions were performed to examine the associations between the scales and the derived biomarker factor scores, controlling for covariates. PCA extracted six biomarker factors. Biomarker factor score 1 was significantly associated with PWB (β=-0.029, p=0.035) and the PWB sub-scale, self-acceptance (β=-0.089, p=0.047), while biomarker factor score 4 was significantly associated with the PWB sub-scale, purpose in life (β=-0.087, p=0.025). On the other hand, biomarker factor 6 was significantly associated with SDS (β=-0.070, p=0.008). There were mutually- exclusive associations between the scales with biomarker factor scores, supporting the hypothesis of distinct constructs. Our findings expanded the biomarkers of depression and PWB, deepening understanding of the biological underpinnings of depressive symptoms and PWB. These findings have implications in field work, since researchers could not infer one construct from the other, the examination of both constructs are essential.

LIFESTYLE COMPLEXITY AND DEMENTIA RISK: EXAMINING MODERATION BY APOE GENOTYPE AND MILD COGNITIVE IMPAIRMENT

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Prior studies suggest that the neuroprotective effect of physical exercise is moderated by APOE genotype and MCI status, but it remains unclear whether this extends to lifestyle complexity defined by a broader variety of physical, intellectual, and social activities. Participants were from the Ginkgo Evaluation of Memory (GEM) Study. We used 18 physical, intellectual, or social activities from the Lifestyle Activity Questionnaire. We performed latent class analysis to characterize subgroups with distinct activity response patterns and examined whether they have differential risk of incident dementia over time. A three-class model was chosen based on fit statistics and interpretability. Cox proportional hazards models, adjusted for potential demographic and health confounders, revealed that Class 1 (Highly intellectually/socially active) had a reduced risk of dementia compared to Class 3 (Less socially/less intellectually active; HR=.71, 95% CI: [.56,.88], p=.002). Class 2 (Socially/less intellectually active) did not differ in risk from Class 3 (HR=.90, 95% CI: [.73,1.1], p=.288). There was no evidence for effect modification for APOE e4 allele carriers (p's>.05), but the protective association for Class 1 only held for those without prevalent MCI at baseline (HR=.74, 95% CI: [.56,.98], p=.033). Results showed that subgroups characterized by a greater variety of social and intellectual activities had reduced risk for dementia, but only for those without MCI. This implies that late-life lifestyle complexity may be most neuroprotective for those in the preclinical stages of decline. Results also suggested that lifestyle complexity may act through a cognitive reserve pathway unrelated to amyloid pathology.

MIDLIFE PLASMA Aβ AND LATE-LIFE RISK OF COGNITIVE IMPAIRMENT: THE ATHEROSCLEROSIS RISK IN COMMUNITIES STUDY

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Plasma-based biomarkers of amyloid beta (Aβ), a neuropathological hallmark of Alzheimer's disease, show promise in predicting cognitive impairment and mapping onto cerebral amyloidosis, but little is known about how midlife plasma Aβ associates with late-life cognitive outcomes. Midlife plasma variants Aβ42 and Aβ40 were measured using a fluorimetric bead-based immunoassay in a subsample of visit 3 ARIC participants (1993-95; n=2585, mean age=59.4±5.2, 57% female, 23% African American). We investigated the relationship between midlife plasma Aβ and late-life mild cognitive impairment (MCI; n=923) and dementia (n=628) diagnosed from 2011-19. Multinomial logistic regressions estimated relative risk ratios (RRR) of MCI, dementia, and death vs normal cognitive status as a function of:(1) Aβ42:Aβ40 ratio, (2) Aβ42 and Aβ40 included as separate terms, and (3) Protected Aβ group (participants with Aβ42≥46 pg/ml and Aβ40 <233 pg/ml). Adjusters included age, sex, education, site-race, and APOE4. Every doubling of midlife plasma Aβ42:Aβ40 up to a threshold of 0.20 was associated with 41% lower risk of developing MCI/dementia in comparison to cognitively normal (RRR=0.59 [95% CI:0.42, 0.82]), with no association for ratio values ≥0.20. Every standard deviation increase in plasma Aβ42 was associated with 17% lower risk of dementia (RRR=0.83 [0.70, 0.99]), whereas every standard deviation increase in plasma Aβ40 was associated with 16% higher risk of MCI (RRR=1.16 [1.02, 1.31]). The protected midlife plasma Aβ group had 86% lower risk of late-life dementia vs all others (RRR=0.14 [0.04, 0.47]). Early measurement of plasma Aβ may prove an accessible and effective population screener for future cognitive impairment.

SESSION 2914 (PAPER)

CAREGIVING I (HS)

DOING THE RIGHT THING: CAREGIVERS AND MEDICAL OR NURSING TASKS IN THE POST-ACUTE HOME CARE SETTING

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Family caregivers often manage complex medical/nursing tasks (MNTs) for older adults returning home after a hospitalization. The purpose of this qualitative study was to describe caregivers' experiences leveraging diverse resources to manage MNTs for older adults receiving post-acute home health care services (HHC). In-depth telephone interviews were conducted with 20 caregivers of older adults who received HHC following hospitalization. Interviews were digitally audio-recorded, transcribed, and analyzed using directed content analysis. The Theory of Dependent-Care informed the analytical framework. We organized codes using three theoretical constructs related to managing older adults' MNT care needs ("tasks related to the other"), accessing existing social/environmental resources ("tasks related to the situation of care"), and working with the healthcare system ("tasks related to the system of care"). Caregivers' descriptions of MNTs included the complexity and socioemotional impact of assisting in these tasks (e.g., dependency, trust). When needed, caregivers' accessed social (e.g., family, friends) and environmental (e.g., neighborhood, housing) resources to help address the older adults' care needs. Caregivers also identified challenges and strategies for navigating and coordinating care and services within HHC and the larger healthcare system. Caregivers assisting with complex MNTs in the post-acute HHC setting need additional training and support. HHC providers can actively engage caregivers by tailoring training and support strategies, assessing social and environmental contexts and resources, and facilitating caregivers' navigation of the healthcare system. Future research could elucidate social and environmental factors associated with successful collaborative relationships among providers, older adults and their caregivers in the post-acute HHC setting.

IMPACT OF FAMILY CAREGIVER TRAINING ON HOSPITALIZATION DURING MEDICARE HOME HEALTH CARE

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Medicare home health providers are required to offer family caregiver training; however, there is little information regarding the impact of family caregiver training on patient outcomes in home health or other care delivery settings. A better understanding of this relationship is necessary to guide development of caregiver training interventions and inform policy discussions surrounding family caregiver training access. This research assesses whether and how unmet need for family caregiver training is associated with acute care utilization during Medicare home health. We examine 1,217 (weighted n=5,870,905) fee-for-service Medicare beneficiaries who participated in the National Health and Aging Trends Study (NHATS) and received Medicare-funded home health care between 2011-2016. We link NHATS data with home health patient assessments and Medicare claims, drawing measures of family caregivers' need for training from home health clinician reports and determining provision of training from Medicare claims. Using weighted, multivariable logistic regressions, we model the marginal change in probability of acute care utilization during home health as a function of family caregivers' unmet need for training. We found that older adults whose family caregivers had an unmet need for training had a probability of acute care utilization during home health that was 18 percentage points (p=0.001) greater than those whose family caregivers both needed and received training, holding all covariates at their means. Findings support the importance of connecting family caregivers to training resources and