Mean MMSE score was 27.5±2.1 at baseline and 28.1±2.2 after the exercise intervention. After the intervention, 57 declined, 55 remained the same, and 120 have improved in MMSE scores. We found that the MMSE score after the intervention was significantly associated with baseline grip strength (beta=.03, P<.05) among healthy older adults, after adjusting basic characteristics, cardiovascular risk factors and mobility at baseline. Conclusion: Our study found that baseline grip strength was strongly associated with cognitive function after the 12 weeks of resistance training. Muscle power, such as grip strength may play an important role in the effect of exercise intervention on cognition even among healthy independent older adults.

EFFECTS OF MEDICARE COMORBIDITIES, SELF-REPORTED FACTORS, AND POLYGENIC RISK SCORES IN RISKS OF AD/ADRD

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At this time there is no consensus on the origin, development, and progression of Alzheimer's Disease and related dementias (AD/ADRD) and the extent to which variation in the effects of potential risk factors affects the risk for this disorder is underexplored. In this paper we used HRS-Medicare-genetics data to evaluate the effects of risk factors from three groups: i) Medicare-based indicators of chronic diseases that have shown an association with AD/ADRD in the literature, ii) individual heath state, behavior, functional status, education and socioeconomic status, and iii) polygenic risk scores that incorporate known-to-date genetic risk factors for AD/ADRD. We found that: i) the effects of Medicare disease indicators are higher than the effects of self-reported diseases; ii) heart diseases, cerebrovascular diseases, and depression had a strong impact on AD/ADRD, while the presence of cancers sometimes decreases the risk of AD/ADRD; iii) systemic hypotension, chronic kidney disease, and chronic liver disease showed unexpectedly strong effects; iv) compared to females, males are affected by a lower number of risk factors albeit at higher magnitudes; v) BMI, alcohol, drinking, income, and number of education years are protective, vi) genetic scores associated with neurotransmitters (synapse functioning and loss) and neuroinflammation demonstrated strong significant effects, and vii) Blinder-Oaxaca decomposition demonstrated the important role of genetic factors in racial disparities in AD risk. The analyses show the extent to which links between the distinct differences in comorbidities, behavioral and socioeconomic factors can predict the risk for AD/ADRD.

LONGITUDINAL ASSOCIATION BETWEEN SERUM 25 HYDROXY VITAMIN D AND COGNITIVE FUNCTION AMONG ICELANDIC OLDER ADULTS

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Studies have indicated that low levels of serum 25 hydroxy vitamin D (25OHD) are associated with lower cognitive function among older adults while longitudinal studies have revealed controversial results. The aim was to investigate the longitudinal associations between 25OHD and cognitive function among older adults with 5-years follow up. The Age, Gene/Environment Susceptibility (AGES)-Reykjavik Study (N=3411) assessed cognitive function measuring memory function, speed of processing and executive function. 25OHD was measured using the Liaison chemiluminescence immunoassay and used as a continuous variable. Multivariate linear analysis, adjusting for numerous confounding factors, was used to calculate the longitudinal associations. All analyses were performed separated by gender. There was a high tendency for low levels of 25OHD i.e. 29.6% men and 37.7% women had hypovitaminosis D (<50 nmol/l). Both men and women had significantly lower scores in all aspects of cognitive function at the follow-up time period. Unadjusted correlations between 25OHD and cognitive functions showed a stronger correlation for women, whereas women had lower scores in all aspects of cognitive function associated with low 25OHD. After adjusting for potential confounders, e.g. age, education, lifestyle and health-related factors, 25OHD and cognitive function were not significantly associated. Observational studies indicate that lower levels of vitamin D are associated with lower cognitive function. Intervention studies are yet to show a clear benefit from vitamin D supplementation. More longitudinal- and interventional studies, with longer follow-up duration, are needed.

TOWARD AN OPERATIONAL DEFINITION OF COGNITIVE LIFESTYLE: MODELING RESERVE ACROSS THE LIFESPAN

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A recent systematic review of current definitions of cognitive reserve across the lifespan was undertaken by our group and five reserve constructs were identified: Educational attainment, sociological position, occupational complexity, cognitive ability, and engagement in leisure activities. The aim of this study was to test whether the different constructs are predictive of cognitive performance in older adults. A theoretical model of cognitive lifestyle was designed to assess reserve across the lifespan and the different measures were mapped in individuals aged >=65 years (N=7,762; 54.47% women) from the Cognitive Function and Ageing Study (CFAS II). Multivariable logistic regression analyses, controlling for age and sex, were used to determine the relationship between later life cognitive function and the five identified measures of reserve. In support of previous findings, the results show that risk of cognitive decline decreases with additional education (OR=0.89; 95% CI= 0.86, 0.94), increasing fluid intelligence (OR=1.00; 95% CI= 0.99, 1.00), and participation in leisure activities (OR= 0.27; 95% CI=0.17, 0.42), and that the lower the hierarchical position of a person's social