THE APOE-ε4 ALLELE AND AGE SYNERGISTICALLY DRIVE DISEASE PROGRESSION IN ALZHEIMER'S DISEASE

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The Apolipoprotein E (APOE)-ε4 allele is the strongest genetic risk factor for Alzheimer's disease (AD) and other neurodegenerative dementias. Cross-sectional case-control studies suggest that the effect of APOE-ε4 decreases in old age. However, since APOE- ε4 is associated with mortality, these studies might be prone to bias due to selective survival. Therefore, we used multi-state-modeling in longitudinal cohort studies to examine the effect of APOE-ε4 on the transition through cognitive states (i.e. cognitively normal, mild cognitive impairment (MCI) and dementia) while taking death as a competing risk into account. Results from the German AgeCoDe study (n=3000, aged 75-101 years) showed that APOE-ε4 increases the risk for cognitive deterioration in all disease stages. Contrary to results from cross-sectional studies, the effect of APOE-ε4 on the transition from MCI to dementia increased with increasing age (HR=1.044, 95%-CI=1.001-1090). The direction of this effect was confirmed in a smaller sample from the Einstein Aging Study (n=744, HR=1.032, 95%-CI=0.949-1.122). To examine the pathophysiological basis of these results, generalized additive models were used to study AD biomarkers in the liquor of 1045 patients with MCI or AD-dementia. Here, increased amyloid (Abeta1-42) pathology was associated with increased tau pathology (pTau181), consistent with the amyloid-cascade-hypothesis. Interestingly, higher age and presence of the APOE-ε4 synergistically lowered the amount of amyloid required to exacerbate tau pathology (interaction p=0.012). Taken together, our results suggest that the effect of APOE-ε4 on disease progression increases with advancing age. An altered neuroinflammatory response to neurodegeneration should be further explored as potential underlying mechanism.

ELDER ABUSE AND NEGLECT IN URBAN AND RURAL AREAS IN CHINA: PREVENTION STRATEGIES

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With acceleration of the ageing population globally, more and more governments are concerned about the potential increase in elder abuse and neglect (EA/N). Recently the National Office for Ageing and the provincial offices for ageing conducted a survey of 224,352 Chinese over the age of 60 years using household interviews to assess economy, health, service, social participation, culture, rights protection, livable environment, etc. Author's analysis of this data shows that 54% of the elderly people interviewed experienced physical and mental abuse or intimidation, and 6.95% of them felt that their legal rights were violated. Data also supports that the occurrence of EA/N was significantly correlated to self-care ability, economic status, and urban and rural regions of the elders. The researcher will discuss the practice and policy implications for the prevention of EA/N.

SMOKING BEHAVIOUR: PATTERNS AND COSTS OF HEALTH SERVICE USAGE USING HAGIS AND LINKED ADMINISTRATIVE HEALTH DATA

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The associations between smoking and health are well documented. Using the Healthy Ageing In Scotland (HAGIS) survey linked to the administrative Scottish National Health Service (NHS) records this study analyses health service resource usage by older people according to self-reported smoking status. Individual level smoking status (current, ex-smoker, or never smoked), socio-demographic characteristics (age, gender, level of deprivation) and subjective health are sourced from people aged 50+ across Scotland using HAGIS. These responses are then linked to NHS Scottish Morbidity Records to analyse variation in health service usage as measured by the total number of days spent in hospital (daycases and inpatient stays), number of stays, and mean length of stay. Costs are then assigned by medical speciality. We use a two-part model to analyse the i) the probability of having been hospitalised at all, and ii) the quantum of resource usage and its associated cost for those who have been in hospital. Our study provides a conceptual and empirical framework for the associative relationship between smoking status and actual (rather than self-reported) health service usage and expenditure. This study demonstrates the insights to be gained from the linkage of individual survey responses to administrative health service data on resource usage and costs, and discusses the implications for health policy.

MEANINGFUL ENGAGEMENT AND QUALITY OF LIFE AMONG ASSISTED LIVING RESIDENTS WITH DEMENTIA: EMERGENT FINDINGS

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