

Association of physical activity as a distinctive feature of clustering of lifestyle behaviours with dementia risk: evidence from the English Longitudinal Study of Ageing

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Background Whereas the association between individual lifestyle behaviours and dementia risk has been well researched, their combined influence is poorly understood. We examined dementia risk in relation to clusters of lifestyle behaviours in a representative sample of English older adults.

Methods Data from 3975 men and women (≥ 60 years) participating in the English Longitudinal Study of Ageing were analysed with latent class analysis. We assessed different clusters of lifestyle behaviours (physical activity levels, consumption of fruit and vegetables, alcohol consumption, smoking behaviour) at wave 3 (considered for these analyses as the baseline), in association with new dementia cases 8 years later (wave 7). Age, sex, marital status, education, memory ability, symptoms of depression, body-mass index, stroke, hypertension, and coronary heart disease, measured at baseline, were included as covariates.

Findings From the overall sample, 5% ($n=178$) developed dementia at wave 7. We identified two distinctive classes of lifestyle behaviours at baseline that were predictive of subsequent dementia, which mainly varied by physical activity levels. 1222 (60%) of 2037 individuals in class I were physically active, 1425 (70%) consumed at least five portions of fruit and vegetables, 672 (33%) drank alcohol daily, and 102 (<1%) were smokers. By contrast, individuals in class II ($n=1938$) were less likely to be physically active (<1%, $n=174$), 52% (1007) had a high intake of fruit and vegetables, and only a minority smoked or drank daily (<20%, 310 and 233, respectively). One in 100 individuals from class I and one in ten individuals from class II developed subsequent dementia. Individuals clustered in class I had a lower risk of dementia 8 years later, than did those in class II (odds ratio 0.16, 95% CI 0.11–0.21).

Interpretation This observational study does not establish the causal status of lifestyle factors associated with dementia risk. It does, however, suggest that physical inactivity should be targeted in future dementia prevention trials targeting modifiable risk factors.

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Contributors

DC and AS were responsible for developing the plan of these analyses and interpreted the results. DC conducted the analyses. All authors contributed to writing the abstract.

The data are linked with the UK Data Archive and are freely available. The content is solely the responsibility of the authors and does not necessarily represent the official views of the NIA or other funding bodies mentioned above.