

Multimorbidity in midlife linked to higher risk of dementia

AUTHOR
Dr Peter Saul
MB ChB DCH DRCOG
FRCGP
GP Wrexham and
Associate GP Dean
North Wales, UK

DEVELOPING TWO OR MORE CHRONIC CONDITIONS IN MIDDLE AGE HAS A STRONG ASSOCIATION WITH an increased incidence of dementia later on, 30-year follow-up data from the Whitehall II study has shown.¹

The Whitehall II study is an ongoing prospective cohort study of a large group of British civil servants. A total of 10,308 civil servants (6,895 men) based in London were recruited between 1985 and 1988, aged 35 to 55 years at baseline.

Participants have been followed up every four or five years with clinical examinations and data linked to electronic health records (including the Hospital Episode Statistics database and the Mental Health Services Data Set) for virtually all individuals. Sociodemographic and lifestyle factors were also recorded.

The researchers analysed data on 10,095 participants followed up to 2019. Participants who had signs of dementia at the start of the study were excluded from this analysis. Multimorbidity was defined as the presence of at least two chronic conditions from a predefined list of 13 chronic diseases: (CHD; stroke; heart failure; diabetes; hypertension, cancer; CKD; COPD; liver disease; depression; mental health disorders; Parkinson's disease; arthritis/RA).

Of the 10,095 participants, 6.6% had multimorbidity at age 55 and 32% at age 70. Over a median follow-up period of 32 years, 639 cases of dementia were identified.

After adjusting for covariates including age, sex, ethnicity, education, diet and lifestyle behaviours, multimorbidity at age 55 was associated with a 2.4-fold higher risk of dementia; hazard ratio (HR) 2.44 (95% CI: 1.82-3.26) with a 1.56 (95% CI: 0.62-2.77) difference in incidence rate per 1,000 person-years compared with people without any of the 13 chronic conditions.

● At age 65 participants who had onset of 2 or more chronic conditions before the age of 55 had a 3.86 (95% CI: 1.80-6.52) per 1,000 person-years higher incidence of dementia; HR 2.46 (95% CI: 1.80-2.26)

● At age 65 participants with onset of 2 or more chronic conditions at 60 to 65 had a 1.85 (95% CI: 0.64-3.39) per 1,000 person-years higher incidence; HR 1.51 (95% CI: 1.16-1.97)

● Participants who had onset of 3 or more chronic conditions before the age of 55 had a 5.22 (95% CI: 1.14-11.95) per 1,000 person-years higher incidence of dementia; HR 4.96 (95% CI: 2.54-9.67)

Previous research has shown that multimorbidity, defined as two or more chronic conditions, in later life is associated with higher prevalence of dementia. Such studies have followed patients for relatively short periods but have not looked at the impact of multimorbidity developing in middle years on the later development of dementia.

As this is an observational study it cannot prove cause and effect. Nevertheless, there appears to be a clear association between multimorbidity in middle life and the later development of dementia. The greater the multimorbidity and the earlier the onset, the more likely the development of dementia.

The study authors conclude: 'Given the lack of effective treatment for dementia and its personal and societal implications, finding targets for prevention of dementia is imperative. Multimorbidity is increasingly prevalent, starting in early adulthood and midlife. Our results show that multimorbidity is associated with an increased risk of dementia at older ages, even more so when onset of multimorbidity is in midlife rather than late life.

'These findings highlight the role of prevention and management of chronic diseases over the course of adulthood to mitigate adverse outcomes in old age.'

REFERENCE

¹ Ben Hassen C, Fayosse A, Landre B et al. Association between age at multimorbidity and incidence of dementia: 30 year follow up in Whitehall II prospective cohort study *BMJ* 2022;376:e068005

We welcome your feedback

If you would like to comment on this article or have a question for the author, write to: editor@thepractioner.co.uk