

Good heart health at age 50 linked to lower dementia risk later in life

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Good cardiovascular health at age 50 is associated with a lower risk of dementia later in life, finds a study of British adults published by *The BMJ* today.

The researchers say their findings support public health policies to improve cardiovascular health in [middle age](#) to promote later brain health.

Dementia is a progressive disease that can start to develop 15-20 years before any symptoms appear, so identifying factors that might prevent its onset is important.

The American Heart Association's "Life Simple 7" cardiovascular health score, initially designed for cardiovascular disease, has been put forward as a potential tool for preventing dementia.

Designed for "primordial" prevention, where the aim is to prevent the development of risk factors themselves in order to affect risk of disease, it is the sum of four behavioural (smoking, diet, physical activity, body mass index) and three biological (fasting glucose, blood cholesterol, blood pressure) metrics, categorised into poor (scores 0-6), intermediate (7-11), and optimal (12-14) cardiovascular health.

But the evidence remains inconsistent. So to address this uncertainty, an international research project led by Séverine Sabia from the French National Institute of Health and Medical Research and University College London, examined the association between the Life Simple 7 cardiovascular health score at age 50 and [risk of dementia](#) over the next 25 years.

Their findings are based on cardiovascular data collected from 7,899 British men and women at age 50 in the Whitehall II Study, which is looking at the impact of social, behavioural, and [biological factors](#) on [long term health](#).

Participants were free of [cardiovascular disease](#) and dementia at age 50. Dementia cases were identified using hospital, [mental health services](#),

and death registers until 2017.

Of the 7,899 participants, 347 cases of dementia were recorded over an average follow-up period of 25 years. Average age at dementia diagnosis was 75 years.

After taking account of potentially influential factors, the researchers found that adherence to the Life Simple 7 cardiovascular health recommendations in midlife was associated with a lower risk of dementia later in life.

Compared with an incidence rate of dementia of 3.2 per 1000 person years among the group with a poor cardiovascular score, those with an intermediate score had an incidence of 1.8 per 1000 person years, while those with an optimal score had an incidence of 1.3 per 1000 person years.

This is an observational study, so can't establish cause, and the researchers point to some limitations, for example relying on self-reported measures and potentially missing cases of dementia in patient records.

However, higher cardiovascular health score at age 50 was also associated with higher whole brain and grey matter volumes in MRI scans 20 years later. And reductions in dementia risk were also evident across the continuum of the cardiovascular score, suggesting that even small improvements in cardiovascular risk factors at age 50 may reduce dementia risk in old age, say the researchers.

"Our findings suggest that the Life's Simple 7, which comprises the cardiovascular health score, at age 50 may shape the risk of dementia in a synergistic manner," they write. "Cardiovascular risk factors are modifiable, making them strategically important prevention targets. This

study supports [public health policies](#) to improve [cardiovascular health](#) as early as age 50 to promote cognitive health," they conclude.

Researchers in a linked editorial agree that the study provides further support for the UK Government's recent policy focus on vascular health in midlife. "However, other evidence makes clear that vascular health at 50 is determined by factors earlier in the life course, including inequality and social and economic determinants," they say.

"Reducing the risk of dementia is a leading concern in aging societies. We know that risk can change across generations, and in the UK the prevalence of dementia has decreased by nearly 25% when standardised for age," they add.

They conclude: "Although the Whitehall study cannot reflect the UK's population, estimates obtained from this cohort reinforce the need for action to shift population risk profiles for cognitive decline and [dementia](#) across the life course."

More information: Association of ideal cardiovascular health at age 50 with incidence of dementia: 25 year follow-up of Whitehall II cohort study, *BMJ* (2019). [DOI: 10.1136/bmj.14414](https://doi.org/10.1136/bmj.14414)

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