

STRIKE THREE

New research says 17 overlapping factors affect risk of stroke, dementia and late-life depression. **Nina Agrawal** on lifestyle changes to lower risk

Although they may appear unrelated, people who have dementia, depression or who experience a stroke often end up having one or both of the other conditions too, said Dr Sanjula Singh, a principal investigator at the Brain Care Labs at Massachusetts General Hospital, US, and the lead author of the study. That's because they may share underlying damage to small blood vessels in the brain, experts said.

Some of the risk factors common to the three brain diseases, including high blood pressure and diabetes, appear to cause this kind of damage. Research suggests that at least 60 per cent of strokes, 40 per cent of dementia cases and 35 per cent of late-life depression cases could be prevented or slowed by controlling risk factors.

"Those are striking numbers," said Dr Stephanie Collier, director of education in the division of geriatric psychiatry at McLean Hospital in Massachusetts, US. "If you can really optimise the lifestyle pieces or the modifiable pieces, then you're at such a higher likelihood of living life without disability."

Often, the risk factors for these diseases are interconnected, and addressing one — for example, getting more exercise by going for routine walks with a friend — can also help you address others, like excess weight and social isolation.

"If you're starting to work on one of them, very often you're actually improving multiple at the same time," Dr Singh said. "That's a great way to start."

Protective Factors

The study, which looked at data from 59 meta-anal-



SMART MOVE: Tasks such as reading, solving puzzles or playing chess protect against brain diseases

yses, identified six factors that lower your risk of brain diseases:

- Low to moderate alcohol intake (consuming one to three drinks a day had a smaller benefit than consuming less than one drink a day)
- Cognitive activity, meaning regular engagement in mentally stimulating tasks such as reading or doing puzzles or playing chess
- A diet high in vegetables, fruit, dairy, fish and nuts
- Moderate or high levels of physical activity
- A sense of purpose in life
- An active social life and a large social network.

Factors That Increase Risk

The study also identified 13 health characteristics and habits that make you more likely to develop dementia, a stroke or late-life depression. (Altogether, the protective and harmful factors add up to 19 factors because two of them, diet and social connections, can increase or decrease risk, depending on their type and quality.)

- High blood pressure
- High body mass index
- High blood sugar
- High total cholesterol
- Depressive symptoms
- A diet high in red meat, sugar-sweetened beverages, sweets and sodium

- Hearing loss
- Kidney disease
- Pain, particularly forms that interfere with activity
- Sleep disturbances (for example, insomnia or poor sleep quality) or sleep periods longer than eight hours
- Smoking history
- Loneliness or isolation
- General stress or stressful life events (as reported by study subjects)

The study only looked at risk factors linked to two or more of the three conditions. It did not prove that these risk factors directly cause the diseases — all it showed was an association.

Trying to tackle all of

these behaviours for brain health might feel overwhelming. But Dr Singh suggested treating the list like a menu of options: "Choose just a first risk factor and then take it step by step," she said.

Where to Begin

The study also identified which specific risk factors and protective habits have a particularly notable effect on brain health. Addressing those, doctors said, is a great place to start.

- Lowering your blood pressure can have huge benefits.

The study found that high blood pressure was the greatest individual

risk factor for developing any of the three diseases, in large part because it nearly triples the risk of stroke. To do this, you might start by lowering salt intake, exercising more or losing weight, said Dr Alison Moore, chief of the division of geriatrics, gerontology and palliative care at the University of California San Diego in the US. But those interventions aren't always enough, she said, especially as we age and our blood vessels stiffen. That's when medication can help.

- Flex your physical and mental muscles. Bonus points if it is with friends.

Moderate and high physical activity substantially decreased the chances of stroke and dementia, as did having a large social network. Still, Dr Collier said the data reaffirms her advice to patients to engage in mental tasks that are "a little bit difficult" — such as reading, doing puzzles or learning a new instrument. Ideally, she said, you'd do those activities with somebody else, because conversation can be cognitively stimulating and because you get the added benefit of social interaction.

- Start early if you can.

Collier said the right time to start making lifestyle changes "is generally not older age; it's middle age." That can prevent even early disease from developing.

But taking steps to reduce these risk factors can help prevent or slow the progression of disease later in life, too. It can also benefit patients who have a family history or genetic predisposition for these diseases, who "often feel like it's their inevitable fate", Dr Singh said. But "there are things they can do — we all can do — to take better care of their brains."

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