

# How exactly does a healthy lifestyle help prevent dementia?

Written by [Robby Berman](#) on February 13, 2024 — Fact checked by [Hannah Flynn](#)

A healthy lifestyle can help you build up your cognitive reserve. Image credit: Sean Locke/Stocksy.

- **The best way to promote long-term cognitive health is by living a healthy lifestyle, according to a new study.**
- **The study, which examined, post mortem, brains of people up to the age of 90, found that most cases of dementia were linked to unhealthy lifestyles.**
- **Only 12% of cases were associated with amyloid plaques, long considered a cause of Alzheimer's disease.**
- **Experts explain that the health of the brain is closely related to the health of the heart, as mini-strokes are often the drivers of non-Alzheimer's dementia.**

A new study offers fresh evidence that living a healthy lifestyle may help a person maintain their cognitive reserve, reducing their chances of developing dementia later in life.

**The study involved 586 brain autopsies of people who had a mean age of 90.9 years at the time of death, and found that their lifestyle habits were more clearly linked to their chances of getting dementia than were amyloid plaques or abnormal blood flow in their brains.**

For many years, the presence of beta-amyloid plaques, tau tangles, or other dementia-related brain pathologies in the brain post mortem have been associated with [dementias](#) — especially [Alzheimer's disease](#).

However, recent research, including this new study, has found that the presence of these features frequently occurs in people who do not have dementia.

Participants in this study had registered with RUSH University's Memory and Aging Project. Individuals self-reported their lifestyle habits. They were asked whether they smoked, engaged in at least 150 minutes of physical activity each week, and limited their alcohol consumption.

The healthiest 40% of participants were considered low risk or "healthy." This corresponded to a [Mediterranean-MIND diet](#) score of 7.5 or above and late-life cognitive health score higher than 3.2.

**The researchers estimated that just 12% of cognition-related measurements were affected by amyloid plaques.**

The study is published in [JAMA Neurology](#).

## The link between healthy lifestyles and cognitive health

The study's first author, [Dr. Klodian Dhana](#), of the Department of Internal Medicine, Division of Geriatrics and Palliative Medicine at Rush University, summed up its main finding for *Medical News Today*:

“We may hypothesize that lifestyle factors, especially diet and physical activity, may have antioxidant and anti-inflammatory properties, cognitive activities may contribute directly to ‘cognitive reserve,’ and all together contribute to cognition.”

Physician, educator, and molecular biologist [Dr. Allison Reiss](#), Assistant Professor at New York University’s Department of Medicine, who was not involved in the study, explained what “cognitive reserve means.”

**“Cognitive reserve is the fuel in the tank of our brain that is built up by using the brain productively to think, absorb ideas and be active in life and with our social network,” she said. “It keeps us sharp and engaged, and gives us resilience and the ability to use our brains flexibly to face new challenges and to be lifelong learners.”**

Dr. Reiss added that a healthy lifestyle keeps the brain nourished with nutrients and oxygen, and promotes an environment “where the brain can flourish and function at its best.”

## The heart health–brain health connection

[Dr. Clifford Segil](#), neurologist at Providence Saint John’s Health Center in Santa Monica, CA, also not involved in the study, said that although much emphasis is placed upon Alzheimer’s dementia, there is another type of dementia called [vascular](#) — or multi-infarct — dementia, which is caused by small, even imperceptible, [strokes](#).

**“So if people have [silent strokes](#),” said Dr. Segil, “they get vascular dementia or multi-infarct dementia. It’s clinically seen by people just getting slow.”**

He said there is a direct correlation between the number of silent strokes a person has had and their cognitive ability.

“Many patients with [diabetes](#), [hypertension](#), and [heart disease](#) that come see me with memory loss from vascular dementia [end up in this situation] because their brain is unhealthy, since their heart is unhealthy,” said Dr. Segil.

## How helpful are post-mortem investigations?

There is some controversy regarding the value of autopsy investigations for dementia.

**“I think our reliance on these post-mortem data has got us into trouble,” Dr. Segil said.**

“I think it’s a problem because a lot of the current theory has been done with investigative data on post-mortem studies with amyloid [plaques].” Even with this concern, however, Dr. Segil still considered that autopsies generally remain worthwhile.

“Knowing the pathology in the human brain is absolutely critical to understanding the disease processes that affect cognitive function,” Dr. Reiss also said.

She expressed her gratitude to the now-deceased study participants, noting that “[t]he microscopic images from these participants give us a historical record back to the 1990s, and captured information from which generations going forward will benefit.”

**“Their generosity and willingness to enroll cannot be appreciated enough,” said Dr. Reiss.**

Dr. Dhana stressed that autopsy data is “very important” in Alzheimer’s research.

## Going beyond beta-amyloid in dementia research

Although “[a] healthy lifestyle was associated with less amyloid load in the brain at autopsy,” said Dr. Dhana, “most of the association with cognition proximate to death was not thorough Alzheimer’s disease pathology, highlighting the multifactorial and complexity of the disease.”

Dr. Reiss said that looking for simple answers underestimates the complicated ways in which body systems interact.

She cited as an example X-rays of two people who have similar degenerative changes that might indicate [arthritis](#) in their joints, and yet one person is in terrible pain while the other is pain-free and living with full function.

**“We also knew this years ago in relation to amyloid,” said Dr. Reiss. “Many older people have amyloid in the brain on imaging and they are cognitively sharp. There are so many factors that impact the human brain, and we are just beginning to understand.”**

In terms of blood vessel damage in the brain, Dr. Reiss added that if deterioration occurs slowly, the brain’s plasticity may compensate for it. “We can counteract a lot of adverse conditions with the many backup systems we have built into our miraculous nervous system,” she said.

**“The study sends a positive message that pathology is not destiny, and we can control more than we might think with respect to our mental functioning,” according to Dr. Reiss.**

## Healthy lifestyle keeps the brain healthy

“Research has shown,” said Dr. Dhana, “that cognitive activities are important for brain health, particularly when accompanied by a high-quality diet and regular exercise. Individuals should consult their doctor about preventive measures, tailoring each lifestyle factor to their individual needs.”

Dr. Reiss added to that list social engagement with friends in person or even online, not smoking, not drinking to excess, controlling your blood sugar if you have diabetes, getting adequate sleep, as well as sufficient sunlight and vitamin D.

Dr. Segil suggested specifically that “people take classes at their junior college or online classes in a subject that they have not taken before. I think structure and new classes exercising your brain is cognitively protective.”

**“As I say, if you don’t use it, you lose it,” noted Dr. Segil.**

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# Can a Mediterranean diet help keep heart disease, dementia, and cancer at bay?

Written by [Katharine Lang](#) on March 18, 2023 — Fact checked by [Ferdinand Lali, Ph.D.](#)

For some time researchers have suggested that a Mediterranean diet — high in fresh fruit and vegetables, beans, nuts, whole grains, and fish — may help lower heart disease risk and increase life expectancy. An increasing amount of scientific evidence now backs up this notion. Recent studies have linked reduced rates of cardiovascular disease, dementia, and cancers with Mediterranean diets. *Medical News Today* looked at the evidence and spoke to experts about the science behind the benefits of this diet.

Several recent studies suggest the Mediterranean diet can help keep several diseases and chronic conditions at bay. Image credit: Cameron Whitman/Stocksy.

Over the years, many diets have been proposed for keeping healthy or reducing the risk of specific diseases, but few of them have stood up to rigorous scientific scrutiny.

One exception, however, appears to be the [Mediterranean diet](#).

Increasingly, studies are showing that there are significant health benefits for people who follow this eating plan. Not only has research shown that it reduces cardiovascular disease, but it may also benefit

cognition, decrease [diabetes](#) risk, reduce the risk of some cancers, and alleviate symptoms of [multiple sclerosis](#).

## What is the Mediterranean diet?

[The Mediterranean diet](#) is an umbrella term referring to diets based on the historic eating habits of people who live around the Mediterranean Sea.

According to [the American Heart Association](#), which recommends this type of diet for cardiovascular health, its key features are:

- high intake of vegetables, fruits, whole grains, beans, and legumes
- low-fat or fat-free dairy products, fish, poultry, non-tropical vegetable oils, and nuts
- limited added sugars, sugary beverages, sodium, highly processed foods, refined [carbohydrates](#), saturated fats, and fatty or processed meats.

The [Harvard School of Public Health](#) adds to these recommendations, emphasizing the importance of healthy fats — olive oil, avocados, nuts, and oily fish.



It advises that people should eat red meat only occasionally, but get their protein from fish or seafood at least twice a week and eat small quantities of poultry, eggs, and dairy most days.

Although water should be a person's main drink, people may also drink one or two small glasses of red wine each day, as per the traditional Mediterranean diet.

Researchers add, however, that a healthy diet should also be paired up with some form of enjoyable physical activity every day.

[Dr. Scott Kaiser](#), a geriatrician, and director of Geriatric Cognitive Health for the Pacific Neuroscience Institute at Providence Saint John's Health Center in Santa Monica, CA, noted:

"Research supports the benefits of adopting healthy lifestyle habits and indicates the critical importance this can play in shaping our future individual and collective health. [...] Start with including lots of fresh vegetables — especially green leafy vegetables — and then enjoy fresh fruits— like berries — and other antioxidant-rich foods, along with fish, olive oil, and other foods rich in brain-healthy omega-3s."

## Why Mediterranean diets are healthy

Mediterranean diets have long been associated with benefits to cardiovascular health. In the mid-20th century, the [Seven Countries study](#) showed that dietary patterns in the Mediterranean and in Japan in the 1960s were associated with low rates of coronary [heart disease](#) and all-cause mortality.

Since then, research has shown that this type of diet not only benefits cardiovascular health, but it also reduces the risk of many other health conditions.

And recently, evidence has been increasing for the wide-ranging health benefits of following a Mediterranean diet. But what makes Mediterranean diets so healthy, exactly?

“The Mediterranean diet is characterized by high fruit and vegetables, high fiber, high levels of ‘good fats,’ moderate intakes of fish and meat, low amounts of high processed foods and sugary treat foods,” noted [Dr. Eamon Laird](#), a visiting research fellow at Trinity College, Dublin, in Ireland.

**“These food components give high amounts of fiber, good fats, [antioxidants](#), polyphenols, vitamins and minerals — choline, vitamin C, potassium, B-vitamins, [vitamin D](#) from fish, etc. — [and] proteins which give health benefits throughout a large number of organ and tissue systems,” he explained.**

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## Mediterranean diet and CVD

Lots of research has investigated the effect of a Mediterranean diet on the risk for cardiovascular disease (CVD).

**[A meta-analysis of several studies](#) published in March 2023, with a pooled sample of more than 700,000 female participants, has found that, by adhering closely to a Mediterranean diet, women reduced their risk of CVD by 24%, and their risk of death from any cause by 23%.**

According to Dr. Laird, “[w]omen are also [much more likely](#) to stick with the diet compared to men, which could explain why we see more of the health benefits in women.”

The meta-analysis seems to confirm the findings of previous research. For example, in 2015, [another meta-analysis](#) had found that the Mediterranean diet could be a major factor in preventing CVD.

And it was the complete diet, rather than any particular aspect, that seemed to have this effect, as [Dr. Joanna Hodges](#), an assistant teaching professor of nutritional sciences at Pennsylvania State University, told *MNT*.

“[The study] concludes that no specific component of the Mediterranean diet has been shown to be as beneficial as the whole diet [in CVD prevention],” she told us.

## Mediterranean diet and cognitive health

There is also increasing evidence that the diet may enhance cognitive function. A [study published in March](#) 2023 that used [UK Biobank](#) data has just reported that individuals with a higher adherence to a Mediterranean diet had up to 23% lower risk for [dementia](#) compared with those who had lower adherence to a Mediterranean diet.

**The study, which used data from more than 60,000 people, concluded that the Mediterranean diet lowered dementia risk even in those with a genetic predisposition for dementia.**

The authors conclude that adopting a diet high in healthy, plant-based foods may be a strategy for reducing dementia risk.

[Another study](#), also published in March 2023, which looked at postmortem Alzheimer’s pathology, found that those who had followed a Mediterranean or [MIND](#) diet, particularly one rich in leafy greens, had a much lower beta-amyloid load.

[Beta-amyloid](#) is thought to be responsible for many of the symptoms of [Alzheimer’s disease](#).

The diet may also be beneficial for people with multiple sclerosis (MS). A [preliminary study](#) to be presented at the [American Academy of Neurology’s 75th Annual Meeting](#) in April 2023, found that people with MS who followed a Mediterranean diet had a 20% lower risk of cognitive impairment than those who followed it the least.

## Mediterranean diet and cancer

The diet has been found to both reduce the risk of some cancers and improve the efficacy of some cancer treatments.

[A 2019 review](#) found that high adherence to the Mediterranean diet was associated with a lower rate of several cancers, including breast, colorectal, and [prostate cancers](#).

This study concluded that the antioxidant and anti-inflammatory properties of components of the diet “prevent and counteract DNA damages and slow down the development of various forms of cancer.”

**For prostate cancer, [recent research](#) has shown that eating a diet high in colorful fruits and vegetables both reduces the risk of developing prostate cancer and [speeds recovery](#) in those who undergo [radiation therapy](#) for the disease.**

The studies, from South Australia, found that diets high in [lycopene](#) and [selenium](#) reduced the risk.

Tomatoes, melons, [papayas](#), grapes, peaches, watermelons, and cranberries are rich in lycopene, and white meat, fish, shellfish, eggs, and nuts contain high concentrations of selenium. All of these are recommended in the Mediterranean diet.

And it is not only prostate cancer patients whose treatment may be more effective on a Mediterranean diet.

A recent study presented [at UEG Week 2022](#) found that the diet was significantly associated with an improved response to immunotherapy drugs in people with advanced [melanoma](#).

## How it works

Although the exact mechanism by which the Mediterranean diet benefits health is unclear, there is increasing evidence that the diet can have [five main effects](#):

- lowering lipids
- protecting against oxidative [stress](#), [inflammation](#), and platelet aggregation
- modifying hormones and growth factors involved in cancer pathogenesis
- restricting specific amino acids
- influencing the gut microbiome to produce metabolites that benefit metabolic health.

Dr. Laird explained to *MNT* how some components of the diet benefit health:

“Omega-3 fatty acids, [phytosterols](#), [resveratrol](#), vitamins, and [polyphenols](#) may contribute to lower levels of inflammation ([CRP](#), [inflammatory cytokines](#)), and may improve [endothelial](#) function. By reducing levels of inflammation, improving blood flow, improving insulin sensitivity, and improving lipid metabolism, by default you are also reducing some of the major risk factors for CVD, cognitive decline, cancers, and diabetes.”

Studies have found that it is best to take in these nutrients in their natural form [as part of a healthy diet](#), such as the Mediterranean diet.

Although they can be obtained through supplements, there may be side effects to taking excessive amounts.

## Small changes will make a difference

The Mediterranean diet is just one of many diets that have health benefits. Others include the [MIND](#), [Nordic](#), and [DASH](#) diets.

**“The common thread throughout all the [healthy] diets is a heavy influence of plant foods, which we see [...] has numerous benefits in increasing dietary fiber, antioxidants, phytonutrients, vitamins, and minerals,” said [Kate Cohen](#), a registered dietitian at the Ellison Clinic at Saint John’s, part of the Ellison Institute for Transformative Medicine and Providence Saint John’s Health Center in Santa Monica, CA.**

So, key to any healthy diet is incorporating plenty of vegetables, whole grains, and healthy fats. Most importantly, any dietary changes made should be [long-term and sustainable](#) to give health benefits.

“Long term it [the Mediterranean diet] may be difficult to follow in its true form, particularly to those accustomed to processed food diets. A good approach would be to slowly integrate components into your current diet and to build slowly — again variety is the spice of life and we should have a varied and diverse diet and not rely solely on one dietary pattern to meet all our needs and requirements and tastes — food is to be enjoyed too!”

– Dr. Eamon Laird