

Statin Use Linked to Dementia

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✓ Fact Checked

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STORY AT-A-GLANCE

- › Having lower levels of low-density lipoprotein (LDL) cholesterol is linked to a higher risk of dementia, according to a study of nearly 4,000 people aged 50 and over
- › A high level of LDL cholesterol was found to be inversely associated with dementia in the study participants, even after controlling for other factors that might increase risk, including demographic characteristics, health behavior, mood assessment and medical history
- › The association was so strong that researchers concluded a high level of LDL cholesterol may be considered as a “potential protective factor against cognition decline”
- › Your brain contains up to 30% cholesterol, which is an essential component of neurons and necessary to develop and maintain neuronal plasticity and function

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Worldwide, someone develops dementia every three seconds, and by 2030 it’s estimated that 75 million will be living with the condition.¹ In the U.S. alone, 5.7 million Americans are living with Alzheimer’s disease, the most common form of dementia, and someone develops the disease every 65 seconds.²

Meanwhile, the use of statin cholesterol-lowering drugs doubled among U.S. adults from 2000 to 2011,³ and by 2019 U.S. doctors were writing 818 million prescriptions for such drugs every year.⁴ In the fervor to lower cholesterol levels — a misguided strategy still

being mistakenly promoted to reduce heart disease risk – might health care professionals be increasing dementia risk?

So suggest the results of a study published in the journal *Frontiers in Neurology*, which looked into the relationship between cholesterol and cognitive function.⁵ While cholesterol is still largely vilified, and statin use still heavily promoted, the study found that having lower levels of low-density lipoprotein (LDL) cholesterol is linked to a higher risk of dementia.

High LDL Cholesterol Protects Against Cognitive Decline

The study involved data from nearly 4,000 residents aged 50 years or over in an urban community in China. A high level of LDL cholesterol was found to be inversely associated with dementia in the study participants, even after controlling for other factors that might increase risk, including demographic characteristics, health behavior, mood assessment and medical history.

What's more, the researchers noted, "There was a significantly higher proportion of participants with low levels of **total cholesterol** (TC) and ... [LDL] cholesterol in the dementia group than in groups without dementia."⁶ The association was so strong that they concluded a high level of LDL cholesterol may be considered as a "potential protective factor against cognition decline."

This may come as a surprise for those who have been told that cholesterol is more of a liability than an asset, but other studies have also found cholesterol to be protective to the brain. For instance, cholesterol levels in the high-normal range were associated with better cognitive performance in people aged 65 years and over.⁷

Those researchers concluded, "[L]ow cholesterol may serve as a clinical indicator of risk for cognitive impairment in the elderly." Lower cholesterol levels were also associated with worse cognitive function among South Korean study participants aged 65 and over, and were considered to be a "state marker for AD [Alzheimer's disease]."⁸

A U.S. study of more than 4,316 Medicare recipients aged 65 and over also revealed that higher levels of total cholesterol were associated with a decreased risk of Alzheimer's disease, even after adjusting for cardiovascular risk factors and other related variables.⁹

Other studies have found higher HDL cholesterol to be associated with better cognitive function,¹⁰ with researchers suggesting, "Further exploration of the protective effect of HDL-C [HDL cholesterol] on cognitive function in aging is warranted through follow-up, longitudinal studies."¹¹

Why Higher Cholesterol Levels May Be Good for Your Brain

Your brain contains up to 30% cholesterol, which is an essential component of neurons and, as stated by the researchers of the featured study, "of great importance to develop and maintain neuronal plasticity and function."¹² In fact, cholesterol is critical for synapse formation, i.e., the connections between your neurons, which allow you to think, learn new things and form memories.

Beyond this, it's been suggested that high cholesterol could be an indicator of overall good nutritional status and health, whereas low cholesterol has been linked to a higher risk of mortality and is often seen alongside malnutrition and chronic diseases, including cancer.¹³ In one study, women with high cholesterol actually had a 28% lower mortality risk than women with low cholesterol.¹⁴

The Frontiers in Neurology study authors also suggested that, as a major component of the brain, decreasing cholesterol levels could be associated with cerebral atrophy, "a typical anatomic syndrome of dementia," and other factors more directly related to your brain health. They continued:¹⁵

"Another speculation is that high LDL-C could reduce neurons' impairments or facilitate compensatory repair of injured neurons. The inhibitions of dendrite outgrowth and synaptogenesis, and the acceleration of neurodegeneration have been observed when neurons was a short of cellular cholesterol or cholesterol supply.

Besides, cholesterol plays an important role in the synthesis, transportation and metabolism of steroid hormones as well as lipid-soluble vitamins, both of which have an impact on synaptic integrity and neurotransmission."

Statins Linked to Neuromuscular Disease

While the featured study didn't look specifically at statin use, it stands to reason that using such drugs to lower your cholesterol to artificially low levels could backfire in the form of degenerating your brain health. Previously, statins have been linked to the neuromuscular degenerative disease amyotrophic lateral sclerosis (ALS), also known as Lou Gehrig's disease.

The World Health Organization (WHO) Foundation Collaborating Centre for International Drug Monitoring receives safety reports associated with statin medications and has noted a disproportionately high number of patients with upper motor neuron lesions among those taking statin medications.¹⁶

The lead researcher, Ivor Ralph Edwards, is an expert in toxicology, acute and chronic poisoning and adverse drug reactions. He stated, "We do advocate that trial discontinuation of a statin should be considered in patients with serious neuromuscular disease such as the ALS-like syndrome, given the poor prognosis and a possibility that progression of the disease may be halted or even reversed."¹⁷

Should You Think Twice Before Taking Statins?

If you've been told you need a statin drug to lower your cholesterol levels, you may want to think carefully before filling the prescription – for a few key reasons. Side effects are one of them. Aside from an increased risk of dementia, statins deplete your body of Coenzyme Q10 (CoQ10), which accounts for many of their devastating results.

CoQ10 is used for energy production by every cell in your body. Its reduced form, ubiquinol, is a critical component of cellular respiration and production of adenosine triphosphate (ATP). ATP is a coenzyme used as an energy carrier in every cell of your

body. The depletion of CoQ10 caused by statins can actually increase your risk of acute heart failure.

While this can be somewhat offset by taking a Coenzyme Q10 supplement (if you're over 40, I would recommend taking ubiquinol instead of CoQ10), statins still come with a risk of other serious side effects, including:

- Diabetes¹⁸
- Cancer¹⁹
- Cataracts²⁰
- Musculoskeletal disorders, including myalgia, muscle weakness, muscle cramps, rhabdomyolysis and autoimmune muscle disease²¹
- Depression²²

Statins also inhibit the synthesis of vitamin K2, which can make your heart health worse instead of better, and reduce ketone production. Ketones are crucial nutrients to feed your mitochondria and are important regulators of metabolic health and longevity.

The other major issue is that the payoff for taking on this heightened risk of side effects is very small, as there is far more that goes into your risk of heart disease than your cholesterol levels.

If you look at absolute risk, statin drugs benefit just 1% of the population. This means that out of 100 people treated with the drugs, one person will have one less heart attack.²³ Keep in mind also that statins reduce your total cholesterol number, without addressing your HDL, LDL, very low-density lipoproteins (VLDL) or triglyceride levels.

While your total cholesterol number gives you a general overview, it isn't the information needed to evaluate your risk of cardiovascular disease. Instead, you'll need to compare your HDL, LDL, VLDL and triglyceride numbers against your total cholesterol.

A review of three large industry-funded studies even found LDL cholesterol does not cause cardiovascular disease,²⁴ raising serious concerns about the continued push for

statin drugs to lower cholesterol.

What Are the Early Signs of Dementia?

Whether you're taking a statin drug or not, being on the lookout for early signals of dementia is important. Dementia is not a disease in itself but, rather, is a term used to describe a number of different brain illnesses that may affect your memory, thinking, behavior and ability to perform everyday activities.

Many people associate dementia with memory loss – and this is a red flag – however, not all memory problems are due to Alzheimer's (and some causes of dementia-like symptoms, including memory loss, can be reversed, such as those related to thyroid problems and vitamin deficiencies).²⁵

Before memory and thinking problems become obvious, people with dementia may display changes in mood and behavior. A person may, for instance, stop doing something they've always loved to do, be it cooking a certain dish for your birthday or watching the evening news.

Apathy is another common sign, although some people may display more blatant changes like suddenly becoming sexually promiscuous or developing the habit of snatching food off other people's plates.²⁶ Mild cognitive impairment (MCI) may follow the earliest changes in mood and behavior.

MCI is a slight decline in cognitive abilities that increases your risk of developing more serious dementia, including Alzheimer's disease.

Forgetting important information that you would have normally recalled, such as appointments, conversations or recent events, may be a sign, and you may have a harder time making sound decisions, figuring out the sequence of steps needed to complete a task, or judging the time needed to do so.

The Alzheimer's Association also compiled differences between symptoms of dementia and typical age-related changes:²⁷

Signs of Alzheimer's/dementia

Typical age-related changes

Poor judgment and decision-making

Making a bad decision once in a while

Inability to manage a budget

Missing a monthly payment

Losing track of the date or the season

Forgetting which day it is and remembering it later

Difficulty having a conversation

Sometimes forgetting which word to use

Misplacing things and being unable to retrace steps to find them

Losing things from time to time

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