



Cholesterol for Brain Health

The human brain contains a high proportion of cholesterol, which is necessary for proper function. A number of scientific studies have found that higher cholesterol is associated with better brain health, and that low cholesterol is associated with worse.

The brain and cholesterol

The brain makes up only 2% of body weight but accounts for [23% of total body cholesterol](#). Clearly, the brain has a high need for cholesterol, which is important for the myelin sheaths of nerve cells and in neurotransmission. Insufficient cholesterol can impeded neurotransmitters.

In recent articles, we've seen how [higher cholesterol is associated with longer life](#), and that [much of current thinking on cholesterol and health has it backward](#). It seems likely, given links between long life and cholesterol, as well as the high cholesterol content of the brain, that higher cholesterol could lead to better brain health. What does the evidence say?

Dementia and cholesterol

In the elderly, [high total cholesterol and high LDL cholesterol are associated with better memory function](#), although there was no association in [APOE4 carriers](#). Low total cholesterol may be [an early marker for cognitive decline](#).

In elderly people – 85 years old and up – [those whose serum cholesterol levels had increased had the lowest risk of dementia](#).

Even among healthy middle-aged women, [higher total and LDL cholesterol was associated with better memory function](#). The authors of this study caution, "Possible cognitive effects

of cholesterol reduction should be considered in future studies of lipid lowering agents.” What this means is that statins could harm cognitive function.

In a study of Finnish men, [dietary cholesterol and egg consumption was associated with lower risk of dementia and/or Alzheimer’s disease](#). Each additional 1/2 an egg daily was associated with 11% lower risk of dementia. Eggs are good for the brain.

Cholesterol and violence, suicide, and depression.

Major depression, violence, and suicide have long been linked to low cholesterol.

“[A significant association between low or lowered cholesterol levels and violence is found across many types of studies](#). Data on this association conform to Hill’s criteria for a causal association. Concerns about increased risk for violent outcomes should figure in risk–benefit analyses for cholesterol screening and treatment.”

[Low serum total cholesterol level is associated with an increased risk of suicide](#). Those in the lowest quartile (fourth) of cholesterol levels (<162 mg/dl) had 6 times the rate of suicide as those in the highest (>224 mg/dl).

[Low cholesterol is associated with increased depressive symptoms in older men](#). Another study found [the same result](#).

[Cholesterol levels are low in major depressive disorder](#). Chart below shows the correlation between plasma cholesterol and the Beck Depression Inventory (BDI) score.

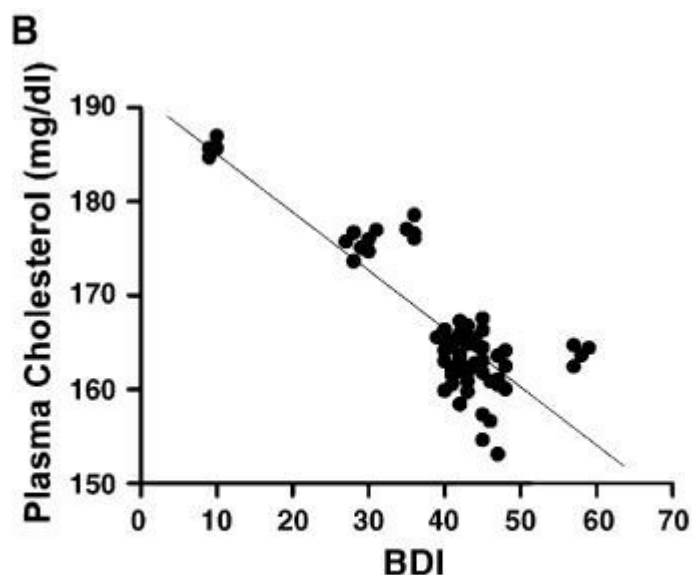


Fig. 2. Correlation between BDI and leptin (A) or cholesterol (B) concentrations in subjects with major depressive disorder.

Low cholesterol and high triglycerides are associated with [4.3 times the risk of major depression, and with 5.4 times the risk of a suicide attempt](#), in

Mexico.

Statins are associated with worse cognitive function

Statins are drugs that lower cholesterol, and if the associations between low cholesterol and poor brain health we've discussed above are causal, then statin use should also be associated with worse brain health.

Statins have been anecdotally [associated with memory loss](#). Adverse cognitive effects from statins appear to be [dose-related](#). Some 90% of patients who had cognitive problems reported improvement after they stopped taking a statin, sometimes within days of stopping. "Of interest, in some patients, a diagnosis of dementia or Alzheimer's disease reportedly was reversed."

Statin use is associated with about [double the risk of Parkinson's disease](#), and high cholesterol cut the risk of Parkinson's in half.

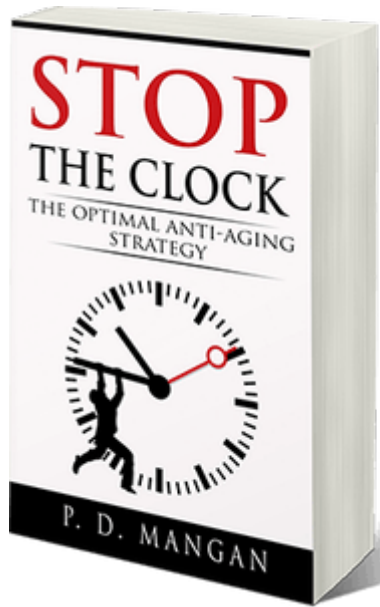
[Large increases in dementia or other cognitive impairment have been found with statin use.](#)

Conclusion

Most of the data above (except animal experiments) are association only, and do not show causation. But given what we know about how the brain uses cholesterol, there are good reasons to think that high cholesterol is good for brain health, and that low cholesterol, whether "natural" or achieved through diet or statins may harm the brain, and increase dementia risk, as well as risk of depression, violence, and suicide.

The widespread practice of prescribing statins to all and sundry could increase the incidence of cognitive decline and dementia.

PS: For more on how to avoid the diseases of aging, see my book, [Stop the Clock](#).



PPS: [Check out my Supplements Buying Guide for Men.](#)