



Coconut Oil: Potential Applications to Dementia Risk Management

Coconut oil has a prominent position in the food and medical tradition, especially in places where palms are cultivated, such as South America and Southeast Asia. In recent decades, however, health concerns about the risk saturated fats have on cardiovascular diseases, along with the high amount of saturated fats in coconut oil, have made many hesitate to consume the oil. A closer scrutiny of the components actually reveals that the properties of coconut oil might have been underrated; the saturated fats in coconut oil may not increase the burden of the cardiovascular system, some components may even help manage the risk factors and some symptoms of dementia.

Coconut oil is composed of about 92% saturated fat, the oil is often recommended to be consumed with caution due to some reports about the cardiovascular burden brought by saturate fat ¹. However, emerging research is suggesting that such restriction may not apply to all saturated fats. For example, although both beef tallow and coconut oil are composed mainly of saturated fats, beef tallow contains a high amount of palmitic acid, which is associated to cardiovascular diseases, while coconut oil does not ²⁻⁴. Researchers have also suggested that lauric acid and polyphenols in coconut oil might have beneficiary effects to health ^{5,6}.

Low-density lipoprotein (LDL) cholesterol is considered to increase the risk of vascular dementia and Alzheimer's Disease, while high-density lipoprotein (HDL) cholesterol lowers the risk of heart disease. The ratio between total and HDL cholesterol is often taken as a risk predictor of dementia. The lower the ratio, the more likely the brain is to remain healthy. In a meta-analysis, Mensink, Zock, Kester, Katan ⁵ reported that lauric acid, a chief component of the saturated acid in coconut oil, had demonstrated the exceptionally high effect of reducing the total-HDL cholesterol ratio. With its property to raise HDL, consuming coconut oil may reduce dementia risk by maintaining cardiovascular health.

Alzheimer's disease is characterized by the unusual formation of amyloid plaques in the brain, but growing evidence is suggesting that the process could be restrained. Hirohata, Hasegawa, Tsutsumi-Yasuhara, Ohhashi, Ookoshi, Ono, Yamada, Naiki ⁶ suggested that polyphenols, a rich source of antioxidants in coconut oil, might inhibit the formation of amyloid fibrils, while Krebs, Bromley, Donald ⁷ demonstrated that such components might limit the toxicity of such fibrils by binding with the proteins. Based on the studies, it is possible that coconut oil may slow down the onset of cognitive impairment.



People with Alzheimer's Disease have reduced glucose uptake ¹, which may result in impaired cognitive performance. A study showed that dietary coconut oil could help stabilize sugar uptake. In the study, patients with Type 1 diabetes and cognitive impairment were prescribed with either coconut oil or placebo drinks. Comparing with placebo, those who consumed coconut oil performed better in a cognitive test battery, suggesting that the feature of sugar uptake stability of coconut oil might be beneficial to cognitive performance ⁸.

The manufacturing process may alter the nutrition values of coconut oil, for instance, virgin coconut oil may retain more nutrients by having the temperature controlled during the oil-pressing process. Comparing virgin coconut oil to copra oil (the manufacturing of which did not involve temperature-controlling procedure), Nevin, Rajamohan ⁹ found that virgin coconut oil could better control lipid levels, reduce LDL, and increase HDL. These health benefits could be explained by the biologically active components in virgin coconut oil, which can be retained under the temperature-controlling procedure.

Apart from the manufacturing process, consumers should also pay attention to the cooking process. Although scientists generally had positive comments on the nutritional values of virgin coconut oil, Hamsi, Othman, Das, Kamisah, Thent, Qodriyah, Zakaria, Emran, Subermaniam, Jaarin ¹⁰ demonstrated that feeding on repeatedly heated virgin coconut oil might result in heightened blood pressure, which brings caution that repeated cooking of same oil – common in the catering industry – may adversely affect the nutritional value of coconut oil. The rich saturated fat in the coconut oil might not be harmful, if not beneficial, to certain mechanisms in the cardiovascular system, but more studies need be done to investigate and ascertain the effectiveness of including coconut oil into daily diet onto our brain health.

References

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