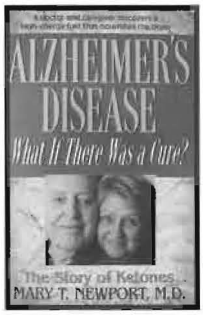
Coconut Oil and Alzheimer's

It has been identified that insulin deficiency and insulin resistance in the brain (now termed as Type 3 diabetes) are important hallmarks of Alzheimer's disease (AD). Glucose utlisation is greatly reduced in areas of the brain affected by AD, however ketone uptake is normal in the affected areas. Ketones are known to serve as an alternative fuel to the brain and other organs, except the liver. Medium Chain Triglyceride (MCT) oil is partly converted to ketones in the liver resulting in mild ketosis. Studies using MCT oil demonstrate improved cognition in nearly half of the people with mild cognitive impairment or AD and coconut oil is about 50% MCT.[1]



Dr. Mary T. Newport, a physician and neonatologist in USA found that with daily consumption of measured doses of coconut oil for over 10 months, her husband Steve Newport, a 58 year old man with early onset of AD experienced improvement in the assessment scales of Cognitive Score, Daily Living score, Mini mental status exam and clock drawing. Even the MRI was reported as stable with no further atrophy. In addition, caregivers reported improvements in 184 persons with dementia or other memory impairment in areas of memory/cognition, social interaction, behaviour or mood, speech/conversation, resumption of lost activities, physical symptoms, sleep, appetite and vision. Clinical studies are being undertaken for confirming usefulness of coconut oil in prevention and treatment of AD and other conditions such as parkinson's disease, multiple sclerosis, amyotrophic lateral sclerosis and autism which are also characterised by decreased glucose utilisation in brain and/or nerve cells.

Foods with Medium Chain Triglycerides (maybe near Alzheimers case)

Food	Grams
Coconut oil	8.4 grams per 15 ml
Palm kernel oil	8 gm per 15 ml
Goat butter	2.4 gm per 15 ml
Cow butter	1.6 gm per15 ml
Goat milk	1.7 gm per 240 ml
Infant formula	1 gm per 240 ml
Cow milk (full fat)	0.9 gm per 240 ml
Human breast milk	0.78 gm per 240 ml
Goat cheese	2 gm per30 gm
Feta cheese	1.4 gm per 30 gm
Heavy cream	1.3 gm per 30 gm
Americancheese	0.78 gm per 30 gm

Source : USDA National Nutrient Database (www.ars.usda.gov/nutrientdata)

Coconut Oil and Alzheimers

The results of the study on Coconut Oil attenuates the effects of Amyloid –β on cortical neurons in vitro indicate that neuron survival in cultures co-treated with coconut oil and Aβ is rescued compared to cultures exposed only to Aβ. Coconut oil co-treatment also attenuates Aβ-induced mitochondrial alterations".

Source : *Coconut Oil attenuates the effects of Amyloid –β on cortical neurons in vitro by Firoozeh Nafar and Karen M. Mearow – Journal of Alzheiner's Disease 2014;39:233*

A study on the effect of ketone bodies in Alzheimer's disease in relation to neural hypometabolism, β-amyloid toxicity and astrocyte function showed that "Much lower doses of ketone bodies can have therapeutic effect in Alzheimer's disease by different mechanisms. Enabling ketone bodies to supply a fraction of the neded ATP may partly compensate for the deficiency in glucose metabloism in Alzheimer's patients".[2]

1.Effects of ketone bodies in Alzheimer's disease in relation to neural hypometabolism, β-amyloid toxicity and astrocyte function by Leif Hertz, Ye Chen and Helle S. Waagepetersen – Journal of Neurochemistry 2015;134:7-20

2.Excerpt from the invited paper : "Coconut Oil and Oil : Ketones as Alternative Fuel for Alzheimer's disease and other disorders" presented by Dr. Mary T. Newport ,MD, Spring Hill, FL, USA at the 2nd International Conference on Coconut Oil 2017, Bangkok, Thailand during 15-18 March 2017

Coconut MCT and its effect on health, cognition, quality of life and AD-related biomarkers

Coconut oil is rich in medium chain fatty acids (MCFA) unlike most other dietary fats that are rich in long chain fatty acids. MCFA are transported to the liver via the portal vein and are more readily converted to ketone bodies. Since decreased sugar metabolism is a key hallmark of AD, ketone bodies are being considered beneficial for individuals developing (or with) memory impairment as ketone bodies serve as an important alternative energy source in the brain. Additionally mounting evidence also support the concept that coconut may be beneficial in the treatment of the common risk factors associated with cardiovascular disease, type-2 diabetes and AD such as obesity, dyslipidaemia, elevated LDL, insulin resistance and hypertension. Phenolic compounds present in coconut may potentially inhibit a key step in AD pathogenesis via their beta amyloid anti-aggregation properties.

Source : Excerpt from the invited paper : "Role of Coconut Oil in Neuroprotection and evaluation of CocoMCT for the prevention of AD" presented by Dr. Ralph N Martins, Department of Biomedical Sciences, Macquarie University, Sydney, Australia at the 2nd International Conference on Coconut Oil 2017, Bangkok, Thailand during 15-18 March 2017.