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**Dietary risk factors for Alzheimer's disease**

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From my research it appears that diets high in animal products including meat, eggs, cheese, and non-fatty cold water fish (but not milk) are an important risk factor for Alzheimer's disease (AD). The countries with the highest dietary amount of animal products, Brazil, Mongolia, and the U.S., have the highest prevalence of AD [Grant, 2016]. The Mediterranean diet, which has about half the animal product content of the standard Western diet such as in the U.S., is associated with a 50% reduction in risk of AD. However, diets with very low animal product content have an additional 50% reduction to 25% of the prevalence as in the countries with the highest animal product consumption.

The first paper linking meat consumption to risk of AD was from the Adventist Health Study. "The matched subjects who ate meat (including poultry and fish) were more than twice as likely to become demented as their vegetarian counterparts (relative risk 2.18, p = 0.065) and the discrepancy was further widened (relative risk 2.99, p = 0.048) when past meat consumption was taken into account." [Giem, 1993].

The mechanisms linking animal product consumption to risk of AD include those related to cholesterol [Czuba, 2017], trace metals [Grant, 1997], and advanced glycation end products (AGEs) [Perrone, 2015]. Copper, iron and zinc are elevated in the senile plaques of people with AD, where they could increase the formation of free radicals [Lovell, 1998]. Serum copper and iron levels are higher in those with AD [Vaz, 2017]. The lactoovovegetarian diet is associated with significantly lower zinc absorption [Hunt, 1998]. "With elimination of meat and increased intake of phytate-containing legumes and whole grains, the absorption of both iron and zinc is lower with vegetarian than with nonvegetarian, diets." [Hunt, 2003]. Neurons are extremely sensitive to attacks by destructive free radicals [Christen, 2000].

AGEs, which are formed in cooking meat at high dry temperatures such as bar-b-que or by aging cheese, or through the Millard reaction between glucose and proteins in the body. AGEs generate free radicals and increase inflammation [Ajith, 2016]. In combination with copper and sugars, AGEs also contribute to neurological dysfunction [Fica-Contreras, 2017].

There is also evidence that higher vitamin D levels are associated with lower risk of developing AD [Littlejohns, 2014], [Feart, 2017].

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