Acta Scientific Neurology (ISSN: 2582-1121)

Volume 3 Issue 2 February 2020

Short Communication

Is Drinking Alcohol (Moderate to Heavy), A Risk Factor for Alzheimer's Disease?

Sivakumar J T Gowder*

Department of Management of Science and Technology Development, Ton Duc Thang University, Ho Chi Minh City, Vietnam

***Corresponding Author:** Sivakumar J T Gowder, Department of Management of Science and Technology Development, Ton Duc Thang University, Ho Chi Minh City, Vietnam.

DOI: 10.31080/ASNE.2020.03.0143

Received: December 31, 2019

Published: January 07, 2020

Alcoholism is a great threat to human beings, especially in this century. In countries like Saudi Arabia, Iran, etc., alcohol intake is illegal and is considered as sin or crime. The highest consumption of alcohol is noticed in Lithuania and Belarus. The United States law allows people to drink alcohol when they attain 21 years of age. In Central African Republic, one should be about 15 years to drink alcohol.

In our earlier reports, we have discussed in detail about alcohol mediated folate deficiency; alcohol induced oral complications; and alcohol induced changes in brain architecture [1-3]. Alcohol mediated structural and functional changes of brain lead to memory loss, a major feature of Alzheimer's disease. In our recent report, we have discussed pesticides induced Alzheimer's disease especially to innocent farmers of developing countries [4].

Alzheimer's is due to formation of beta-amyloid plaques. Alcohol impairs the brain from clearing out amyloid plaques. Usually, microglial cells are involved in the digestion (phagocytosis) of amyloid beta protein plaques. Alcohol exposure resulted in the suppression of the processes of phagocytosis in microglial cells. Excessive alcohol consumption leads to brain damage, cognitive impairments, and an increased risk of various types of dementia. Excessive intake of alcohol or hard liquor also results in cognitive decline in Alzheimer's disease [5- 8]. Chronic alcoholics usually have vitamin (thiamine) deficiency since nerve cells require thiamine to function properly. Malfunctioning of nerve cells result in memory loss. Alcoholics also have nutritional (vitamin) deficiencies from a poor diet. Poor diet results in malfunctioning of nerve cells [9].

Though there are reports suggest that light to moderate alcohol intake might be protecting the brain, a prominent cohort study conclude that light drinking provided no use at all for the brain [10]. In brief, there is no optimum level for alcohol consumption that is beneficial to the brain or health. It is also difficult to formulate a moderate amount that is beneficial for people since the amount varies from people to people, depending on age, gender, ethnicity, and also physiological system of individuals. Physicians and scientists should conclude that alcohol intake has adverse effects rather than beneficial effects to the human population.

Bibliography

1. Gowder SJT and McMartin KE. "Methods to evaluate the effect of ethanol on the folate analogue, fluorescein methotrexate uptake in human proximal tubular cells". *Advances in Pharmacological Sciences* 291349 (2009).

2. Uppala D and Gowder S. "Safety Assessment of Alcohol on Oral Health". *Medical Safety and Global Health* 5.1 (2016).

3. Mehta SK and Gowder SJT. "Alcoholism and The Brain Architecture". *Journal of Neurology and Neurobiology* 2.4 (2016).

4. Alrashdi AS and Gowder SJT. "Is AD, A Major Threat to Innocent Farmers?" *Acta Scientific Neurology* 2.12 (2019): 01-02.

5. Cohurt M. "Alcohol may prime the brain for Alzheimer's, but how?" Medical News Today (5 June 2018).

6. Jürgen R., *et al.* "Alcohol use and dementia: a systematic scoping review". *Alzheimer's Research and Therapy* (2019): 11.

7. Heymann D., *et al*. "The Association Between Alcohol Use and the Progression of Alzheimer's Disease". *Current Alzheimer Research* 13.12 (2016): 1356-1362.

8. Kalinin S., *et al*. "Transcriptome analysis of alcohol-treated microglia reveals downregulation of beta amyloid phagocytosis". *Journal of Neuroinflammation* 15. 141 (2018).

9. Buddy T. "An Overview of Alcoholic Dementia. Wernicke- Korsakoff Syndrome". *Verywell Mind* (2019).

10. Topiwala A. "Moderate alcohol consumption as risk factor for adverse brain outcomes and cognitive decline: longitudinal cohort study". *British Medical Journal* 357.2353 (2017).