

# No evidence that alcohol causes depression, study finds

September 12 2013

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(Medical Xpress)—There is no truth to the long-held belief that alcohol causes depression, clinical neuroscientists from The University of Western Australia have concluded.

Professor Osvaldo Almeida, of UWA's School of Psychiatry and Clinical Neurosciences, said that until now everyone had assumed that alcohol caused people to become depressed, particularly if consumed at excessive levels.

"Even one of the diagnoses we have for depressive disorders - Substance Induced Mood Disorder - is a diagnosis where alcohol plays a role," Professor Almeida said. "However, because of the observational nature of the association between alcohol and depression, and the risk of

confounding and bias that comes with [observational studies](#), it is difficult to be entirely certain that the relationship is causal.

"For example, people who drink too much may also smoke, have poor diets and other diseases that could explain the excess number of people with depression among [heavy drinkers](#)."

Professor Almeida and fellow researchers with the long-running Health in Men Study (HIMS) decided to search for a causal link via physiological pathways instead: specifically the genetic polymorphism, or mutation, most closely associated with alcohol metabolism.

"We now know that certain genetic variations affect the amount of alcohol people consume," Professor Almeida said. "There is one particular [genetic variation](#) that affects the enzyme responsible for the metabolism of alcohol. This variation produces an enzyme that is up to 80 times less competent at breaking down alcohol. Consequently, people who carry this variation are much less tolerant to alcohol. In fact, there is now evidence that alcohol-related disorders are very uncommon in this group.

"Now, if alcohol causes depression, then a genetic variation that reduces alcohol use and alcohol-related disorders, should reduce the risk of depression. The great advantage of looking at the gene is that this association is not confounded by any other factors - people are born like that."

The researchers analysed the triangular association between the genetic mutation, alcohol and depression in 3873 elderly male participants of the HIMS study, using data collected over three to eight years.

"We found (as expected) that this particular genetic variant was associated with reduced alcohol use, but it had no association with

depression whatsoever," Professor Almeida said.

"The conclusion is that alcohol use neither causes nor prevents depression in older men. Our results also debunk the view that mild to moderate alcohol consumption may reduce the risk of depression."

He said the association observed between alcohol and depression was likely explained by other factors, but not by alcohol itself.

"It doesn't mean alcohol is entirely safe and people can consume it in whatever way they like. We know that alcohol when consumed in excess does create a lot of health problems - but what we now know is that one of those problems is not depression."

HIMS is a longitudinal study of 12,201 men aged 65-83 when recruited in 1996. The HIMS research team, largely made up of UWA researchers, has so far published more than 100 papers on a wide range of men's health and ageing issues.

A paper on the study - The triangular association of ADH1B genetic polymorphism, [alcohol](#) consumption and the risk of [depression](#) in older men - was published this week in the journal *Molecular Psychiatry*, part of the Nature group.

**More information:** [www.nature.com/mp/journal/vaop...full/mp2013117a.html](http://www.nature.com/mp/journal/vaop...full/mp2013117a.html)

Provided by University of Western Australia

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