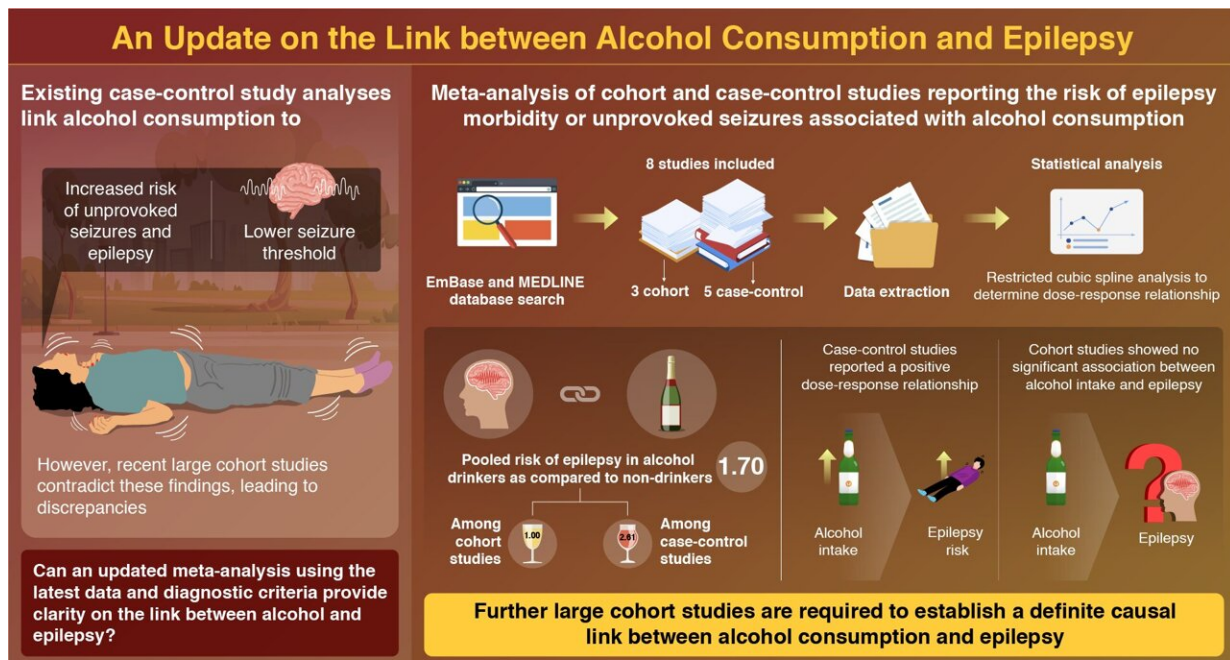


The link between alcohol consumption and epilepsy

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Alcohol Consumption on Unprovoked Seizure and Epilepsy: An Updated Meta-Analysis
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Lab website: <https://journal.pnu.ac.kr>
ORCID ID: 0000-0002-0796-8266

 PUSAN NATIONAL UNIVERSITY

Scientists conduct an updated analysis to clarify if alcohol drinkers may be at higher risk of developing epilepsy and unprovoked seizures. Credit: Pusan National University

Epilepsy, a common neurological disorder associated with stigma, psychiatric comorbidities, and rising healthcare costs, affects approximately 50 million people globally. A common risk factor

associated with the development of epilepsy and seizures is alcohol consumption.

Studies have focused on how alcohol [consumption](#) leads to provoked seizures, commonly occurring due to alcohol withdrawal, or heavy alcohol intoxication. However, very few of these focus on the link between alcohol consumption and unprovoked seizures. One such study was a [meta-analysis](#) conducted in 2010, which analyzed six case-control studies and found that alcohol users were more prone to developing unprovoked seizures.

Interestingly, data from recent cohort studies contradict these findings, implying that there is no association between alcohol intake and epilepsy.

Now, using more accurate diagnostic methods and recent data, a team of scientists led by Professor Kyoung Nam Woo and including Professor Yun Hak Kim from Pusan National University, South Korea, conducted an updated meta-analysis to conclusively clarify the relationship between alcohol consumption and unprovoked seizures and epilepsy.

For this meta-analysis, which was made available online in the *Drug and Alcohol Dependence* journal on January 11, 2022, the team included a total of eight studies, comprising five case-control studies and three cohort studies. Further, they conducted a cubic spline analysis on data extracted from these studies, to assess the dose-response relationship between alcohol intake and epilepsy.

The findings suggested that overall, alcohol drinkers were at a significantly higher risk of developing epilepsy, as compared to non-drinkers. A significant positive dose-response relationship was found upon analysis of case-control studies, implying that the risk of epilepsy increases with an increase in alcohol intake. These findings are

consistent with previous meta-analyses.

An important finding was that cohort studies did not show a positive association between alcohol intake and epilepsy. In fact, 2 out of 3 cohort studies suggested that alcohol intake reduces the risk of epilepsy.

"Further large cohort studies of the general population are required to assert a definite causal relationship between alcohol consumption and epilepsy and to identify a potential threshold," Prof. Kim suggests. Moreover, since cohort studies include more subjects, and are less prone to biases, they comparatively provide more accurate relationships between exposure and development of a disorder.

"An assessment of the risk of alcohol consumption in various clinical situations, such as types of CNS insult and the time relation of [alcohol](#) consumption with seizures, will be important for primary prevention. To increase the applicability to the general population, future studies should be conducted in which the potential confounders such as age, sex, and smoking have been adjusted," says Prof. Woo, highlighting the long-term implications of this work.

Once clarity is achieved, assessment of the risk of [alcohol consumption](#) in different clinical situations will be an effective step for the prevention of [epilepsy](#) in the [general population](#).

More information: Kyoung Nam Woo et al, Alcohol consumption on unprovoked seizure and epilepsy: An updated meta-analysis, *Drug and Alcohol Dependence* (2022). [DOI: 10.1016/j.drugalcdep.2022.109305](https://doi.org/10.1016/j.drugalcdep.2022.109305)

Provided by Pusan National University

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