

Coronavirus 2019 (SARS-CoV-2)

Alcohol Effects

As reported by several news outlets, more than 190 people in Iran died of “bootleg” alcohol consumption, possibly related to the belief that drinking alcohol could prevent the COVID-19 infection.

Below is important information regarding alcohol consumption, including reasons to monitor your alcohol consumption during the COVID-19 pandemic.

1. In Iran, individuals consuming “bootleg” liquor died because of methanol poisoning.

Alcohols are a class of related organic compounds composed of carbons and hydroxyl chemical groups, including ethanol, methanol, and isopropyl. Ethanol is the major component of alcoholic beverages, while methanol is found in antifreeze solutions and isopropyl (also called “rubbing alcohol”) is used in some cleaning solutions. Methanol is highly toxic since it is broken down into byproducts such as formaldehyde, formic acid and formate. These chemical compounds can cause liver damage, blurred vision or vision impairments, kidney failure, nerve and brain damage, and death.

2. High levels of alcohol consumption can negatively affect your immune system.

- Chronic alcohol exposure can affect the number and function of important immune cells (T and B cells) which respond to and initiate reactions to fight off infections.
- Individuals with the diagnosis of Alcohol Use Disorders (sometimes called alcoholism) and those with a history of heavy and frequent drinking (i.e., binge drinking) are at an increased risk for pulmonary infections that can lead to clinical conditions such as pneumonia.
- Short periods of binge drinking are also associated with reductions in the number of T and B immune cells. Binge drinking is defined as consuming 5 standard drinks or more in a 2-hour period if male, and 4 or more standard drinks in a 2-hour period if female. Rates of binge drinking are highest on college campuses and among 18- to 25-year-olds.



- During this COVID-19 outbreak, drinking alcohol at “low-risk levels” might not be harmful. *To reduce long-term health risks, women should consume **no more** than 2 standard drinks a day and **no more** than 10 standard drinks in a week, while men should consume **no more** than 3 standard drinks a day and **no more** than 15 standard drinks per week. Both men and women should also plan non-drinking days every week to reduce the risk for physical dependence.

- Adolescents, young adults (<21 years) and pregnant women should not consume alcoholic beverages, and individuals greater than 65 years should consider drinking less than the “low-risk levels”.

3. Alcohol and interaction with pain and fever-reducing medications such as aspirin and acetaminophen.

- Alcohol and certain medications share the same enzymatic pathway for metabolism and when consumed together on a regular basis can lead to either:
 - (1) higher medication levels in the body or
 - (2) increased medication breakdown.
- Chronic alcohol use may increase the risk of acetaminophen (i.e., Tylenol) toxic effects on the liver, due to an increase in the formation of toxic metabolic by-products.
- With other pain relievers such as aspirin, alcohol use may enhance the effects on bleeding and coagulation time.

*The effects of alcohol use on these potential drug interactions are affected by the amount and duration of alcohol consumed as well as the dose of the drug. For example, moderate alcohol use does not significantly increase the risk of gastrointestinal bleeding in those who occasionally take aspirin at recommended daily doses. On the other hand, individuals more at risk for these alcohol-medication interactions include those consuming at least 3-5 drinks daily and who regularly consume greater than 325 mg of aspirin a day.

4. Drinking too much can lead to dehydration.

COVID-19 infection can be associated with vomiting and diarrhea, both conditions that can lead to dehydration, causing additional health risks. Alcohol suppresses the release of antidiuretic hormones. Suppression of antidiuretic hormones can result in diuresis, which is increased urination and can cause dehydration.

5. Drinking too much leads to impaired judgement and engagement in risky behaviors.

Specifically, it may interfere in efforts to practice social distancing and handwashing.

References and Helpful Resources:

- <https://www.camh.ca/-/media/files/canadas-low-risk-guidelines-pdf.pdf>
- Pasala S, Barr T, Messaoudi I. Impact of alcohol abuse on the adaptive immune system. Alcohol Research: Current Reviews. 2015.
- Weathermon R, Crabb DW. Alcohol and Medications. Alcohol Research & Health.1999.
- <https://www.rethinkingdrinking.niaaa.nih.gov/>
- https://www.integration.samhsa.gov/clinical-practice/sbirt/NIAAA_SBIRT_Pocket_Guide_-2-.pdf

Any Questions?

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