# Liters of pure alcohol consumed per capita (X4)

Suicide is a complex societal problem with multiple social, psychological, biological, and cultural factors. It is one of the top 20 leading causes of death in the world for all ages [5]. An estimated one million people die annually from suicide, i.e., a global mortality rate of 16 per 100,000, or one death every 40 seconds [5]. Suicide has no singular cause. However, harmful use of alcohol is among the major risk factors for suicide.

The harmful use of alcohol is defined as “…drinking that causes detrimental health and social consequences for the drinker, the people around the drinker and society at large, as well as patterns of drinking that are associated with increased risk of adverse health consequences”[1]. Alcohol intoxication can increase dysphoria, cognitive dysfunction, impulsivity and suicidal ideation. People have approximately seven times increased risk for a suicide attempt soon after drinking alcohol, and this risk further increases to 37 times after heavy use of alcohol [4]. Risk of suicidal ideation, suicidal attempts and completed suicide are each increased by 2–3 times among those with Alcohol Use Disorders (AUD) in comparison with the general population [5].

A close up of a map

Description automatically generated

Figure 1. Taken from “Alcohol Consumption” [6]

A study published in **The Lancet** found that global alcohol consumption saw an increase of about 70% from 1990 to 2017, going from about 21 billion liters of pure alcohol to 35.7 billion liters of pure alcohol [7]. Current evidence indicates an association between alcohol dependence and impulsive suicide attempts [5]. Countries that have higher rates of alcohol use generally also have higher rates of suicide, and we were able to draw similar conclusions from our findings. Our modelling showed a positive correlation between the liters of pure alcohol consumed per capita and the suicide rate per capita.

Given our findings and the trend of increasing global alcohol consumption, policy makers should consider implementing measures designed to mitigate the harmful use of alcohol as a means of reducing the rate of suicide. Three areas where actionable policy can be pursued are: regulating the availability of alcohol, imposing restrictions on the marketing of alcohol, and regulating the pricing of alcohol.

When designing measures for regulating the availability of alcohol, policy makers should consider not only the production of alcohol, but also the retail outlets and social settings where alcohol is served. If not already present, implement a licensing system to monitor the production, wholesaling, and serving of alcohol. Establish restrictions on the consumption of alcohol in public spaces and limit the hours and days during which alcohol may be sold.

Alcohol is marketed through increasingly sophisticated advertising and promotion techniques, including linking alcohol brands to sports and cultural activities, sponsorships and product placements, and new marketing techniques such as e-mails, SMS and podcasting, social media and other communication techniques [2]. In response to this, a statutory framework which regulates the content and frequency of the marketing of alcoholic beverages across all channels is necessary. The framework should provide for the monitoring and enforcement of marketing restrictions.

A system for taxation, taking into account the alcohol content of the beverage, is recommended. Increasing the price of alcoholic beverages is one of the most effective policy interventions to reduce harmful use of alcohol [2], and studies to this effect repeatedly corroborate this conclusion. A key factor for the success of pricing policies in reducing harmful use of alcohol is an effective tax regime, matched by equally effective enforcement [2].

Given the correlation between alcohol consumption and suicide, it is our conclusion that by implementing these policy prescriptions to reduce the harmful use of alcohol, a statistically significant reduction in the suicide rate will occur.

## References

[1]  "WHO | Global status report on alcohol and health 2018 - World ...." 21 Sep. 2018, <https://www.who.int/substance_abuse/publications/global_alcohol_report/en/>. Accessed 5 Apr. 2020.

[2]  "Global strategy to reduce harmful use of alcohol - WHO.", <https://www.who.int/substance_abuse/activities/gsrhua/en/>. Accessed 5 Apr. 2020.

[3] "Public health science and the global strategy on alcohol - WHO." <https://www.who.int/bulletin/volumes/88/9/10-081729/en/>. Accessed 5 Apr. 2020.

[4] "A meta-analysis of acute use of alcohol and the risk of suicide ...." 8 Dec. 2016, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5340592/>. Accessed 5 Apr. 2020.

[5]  "Alcohol-Related Risk of Suicidal Ideation, Suicide Attempt ...." 20 May. 2015, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4439031/>. Accessed 5 Apr. 2020.

[6] “Alcohol Consumption”,

<https://ourworldindata.org/alcohol-consumption>. Access 6 Apr. 2020.

[7] “Where Global Alcohol Consumption Is Rising and Falling”,

<https://www.forbes.com/sites/niallmccarthy/2019/05/09/where-global-alcohol-consumption-is-rising-falling-infographic>. Accessed 6 Apr. 2020.