

IFMSA Policy Proposal Alcohol Consumption

Proposed by Team of Officials
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Policy Commission

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Policy Statement

Introduction:

Alcohol is a psychoactive, dependence-producing substance related to 5.3% of deaths worldwide, various physical and mental disorders, as well as unstable socio-economic structures. Its indispensable relation with everyday life and culture results in the demand for an interdisciplinary approach taking all its various aspects into consideration.

IFMSA position:

The International Federation of Medical Students' Associations (IFMSA) stands by the fact that alcohol consumption poses risks to human health. We believe alcohol consumption is a public health issue that requires an interdisciplinary approach: from health professionals to governments and including universities and civil society organisations. We recognise alcohol's presence in society and culture and the need to understand it in order to act on the consequences on both physical and social health.

Call to Action:

IFMSA calls for

- **Healthcare professionals and healthcare facilities to:**
 - Tackle alcohol consumption as a public health problem and implement a primary prevention system
 - Use Screening and Brief Intervention (SBI) as a basic practice in any patient mentioning alcohol consumption
 - Use the Screening, Brief Intervention, and Referral to Treatment principle (SBIRT) principle when alcohol-related problems are detected.
 - Tackle the specific external factors that increase alcohol consumption specifically for each patient
 - Identify early warning signs and risk conducts in order to avoid underdiagnosis and undertreatment.
 - Establish primary and secondary alcohol prevention measures in a variety of social and healthcare settings
 - Systematically screen for health problems caused or aggravated by alcohol consumption.
 - Approach all patients safeguarding their full dignity and human rights, specifically without individual blame attribution
- **National governments and intergovernmental bodies to:**
 - Establish regulations setting the minimum legal age for alcohol consumption, levy appropriate taxes and introduce pricing policies to the alcoholic beverage market
 - Establish adequate control programs alongside drink-driving countermeasures and develop supporting systems for past offenders
 - Restrict alcohol advertisement, promotion and sponsorship in all types of marketing efforts
 - Ensure coverage of preventions and treatment interventions for substance use disorders, including alcohol dependence
 - Adopt the WHO global strategy to attain the desired target of the relative reduction in harmful use of alcohol by 2030
 - Implement research initiatives that aim to collect, analyse and disseminate data on alcohol consumption patterns and initiatives combating them.
- **Civil society organisations (incl. youth-led and youth-focused organisations) to:**
 - Deny sponsorships and advertising deals by alcohol companies activities and organisations with ties to them
 - Engage with governments to advocate for strengthened national regulation alongside follow-up and reporting
 - Promote awareness of harmful impacts of alcohol consumption among youth-led organisations, as a major target population
 - Collaborate with each other to advocate for the establishment of the detrimental effect of alcohol consumption on human health as a prime global health threat
 - Ensure transparent collaboration with the WHO concerning the submission of due diligence, risk assessment and risk management in the alcohol consumption context

- **The World Health Organisation to:**
 - Provide technical and logistical support for the implementation and follow-up of the global strategy to achieve the desired target of the relative reduction in harmful use of alcohol by 2030
 - Develop strategies to tackle differences in cultural norms, the intersectoral nature of cost-effective solutions, increasing pricing strategy and limited political will in policy making.
 - Increase awareness of the negative health and social consequences of the use of alcohol and its causal relationships with the NCDs
 - Expand research workforce pertaining to alcohol consumption monitoring, alcohol-related harm, their determinants and modifying factors & accurate information dissemination, across all regions.
- **Economic operators in alcohol production and trade to:**
 - Ensure transparent dissemination of information of WHO Dialogue with representatives of economic operators in alcohol production and trade
 - Implement high-impact strategies and interventions, primarily directed towards the implementation of the SAFER initiative
- **Universities and agencies for residency programs to:**
 - Incorporate alcohol consumption and its consequences on individuals' health into the current medical school curricula.
 - Train healthcare students on the competencies, skills and aptitudes that will be useful in their professional careers when facing an alcohol consumption issue in a patient.
 - Include specific training on unhealthy substance use and abuse during the residency programmes and information about the various therapies available for the patients.
- **IFMSA National Member Organisations (NMOs) and medical students to:**
 - Develop mechanisms for limiting alcohol consumption in events while ensuring the existence of safety measures that contribute to the decrease of direct harm caused by alcohol consumption.
 - Deny sponsorships and advertising by alcohol companies through their activities and organisations
 - Develop activities within the Standing Committee on Medical Education to include alcohol's harm to health in the medical curriculum
 - Promote alcohol-free spaces in their meetings and alternative spaces and behaviours when alcohol consumption is permitted
 - Deliver sessions on Screening and Brief Intervention in alcohol-related contexts

POSITION PAPER

Background information:

Alcohol, a psychoactive substance with high dependence, causes a significant number of diseases and considerably increases the social and economic burdens in the community. It accounts for nearly 3 million deaths each year, which represents 5.3% of the total mortality. The impacts of alcohol abuse are not limited to the consumers themselves, but it also causes significant harm to other people, such as family members, friends, co-workers as well as strangers. Its abuse is a causative agent to more than 200 diseases and injury conditions. As calculated in disability-adjusted life years (DALYs), 5.1 % of the global burden of disease and injury is attributable to alcohol consumption. [1]

Consumption of alcohol at regular intervals causes death and disability relatively early in life. Target groups of age group 20–39 years account for approximately 13.5 % of the total deaths due to alcohol imbibition. A wide range of mental and behavioural disorders alongside physical injuries are associated with alcohol consumption, in addition to its consumers facing significant social and economic losses. Three main factors are vital determinants of consumption: individual, societal, and environmental factors, with the latter regarding especially economic development, culture, availability of alcohol, and the comprehensiveness and levels of both implementation and enforcement of alcohol policies are vital determinants of consumption. [1]

Discussion

Alcohol consequences on health

Alcohol, as an intoxicant, influences a multitude of structures and functions in the human body. Its consumption is causally related to over 200 adverse short- and long-term health conditions. [1] For example, alcohol poisoning, resulting from a high blood concentration, is considered a medical emergency. [2] In addition, alcohol replacements and illegally produced alcohol drinks can constitute an additional health risk due to toxic products. [1]

A substantial part of the more imminent alcohol-attributable health threats results from both accidental and deliberate injuries, including those from traffic accidents, violence and suicide. Deadly alcohol-related incidents commonly occur rather in the younger age groups. [1] Drinking alcohol in excess can also lead to engagement in risky sexual behaviours, including but not limited to unprotected intercourse or sexual relations with multiple partners. These practices can result in an unexpected pregnancy or the acquisition of sexually transmitted infections, including HIV. Additionally, alcohol poses a serious threat to the health of those who are pregnant and their fetuses by, among other factors, significantly increasing the risk of miscarriage, stillbirth or fetal alcohol spectrum disorders (FASD). [2]

Consuming alcohol excessively over a long period of time or too heavily on a single occasion can cause major damage to the heart and related cardiovascular problems, such as cardiomyopathy, cardiac arrhythmia, high blood pressure and stroke. Heavy alcohol consumption puts a strain on the liver and can lead to a variety of conditions, including steatosis (fatty liver), alcoholic hepatitis (inflammation), fibrosis and cirrhosis. Alcohol prompts the pancreas to produce toxic metabolites, which can ultimately lead to pancreatitis, a dangerous condition hindering regular digestion. [3]

In addition, alcohol acts as an immunosuppressant. Therefore, excessive consumption weakens the immune system and makes the body much more susceptible to communicable diseases, including pneumonia, tuberculosis and AIDS. Also, drinking heavily on one occasion reduces the body's ability to resist infection - even up to 24 hours after consumption. Moreover, alcoholic products increase the risk of certain cancers and have therefore been categorised as carcinogenic by the International Agency for Research on Cancer (IARC). Clear associations have been found between alcohol consumption and an increased carcinomic risk of the oral cavity, pharynx, larynx and oesophagus, as well as liver, breast and colorectal cancer. [3]

As a psychoactive substance, alcohol disrupts the brain's communication pathways and can interfere with structures and functions of the central nervous system. These impairments can not only alter one's mood and behaviour but also negatively impacts cognitive functions and movement coordination. [3] With

regard to neuropsychiatric disorders, alcohol use accounts for by far the greatest increase in the risk of alcohol dependence. Furthermore, drinking alcohol has also been associated with several mental disorders, although the causality of these correlations is not clear. That means mental disorders may be caused by Alcohol Use Disorder (AUD), while AUD may be contributed by other mental disorders, and even third variables may cause both AUD and other mental disorders. This complex relationship makes it difficult to determine the proportion of mental disorders which are effectively caused by alcohol consumption. [4]

Apart from alcohol use disorders and alcohol dependence, its consumption can lead to cognitive problems and neurological disorders, including dementia, in addition to other consequent mental health problems such as psychiatric diseases, e.g. depression and anxiety. [2]

Eventually, individuals who excessively consume alcohol can also encounter a range of social difficulties, such as family issues, problems at work (including unemployment), criminal convictions and financial hardship. However, the record of these issues is far less standardised than the tracking of health conditions or not measured on an ongoing basis. Studies conclude that health costs are only a small part of the total societal burden and that the majority of alcohol-related costs stem from productivity losses. [4]

In addition, inequities in alcohol consumption harm can arise as well, affecting the social determinants of health. For example, in Europe, the burden of alcohol-related harm is particularly heavy on certain groups, including but not limited to evident inequities based on socioeconomic status, sex, ethnicity, education level and place of residence. To reflect more, in most European countries, inequities in alcohol-related mortality and health issues are more pronounced than the differences in alcohol usage across the social gradient. For instance, lower socioeconomic groups drink less alcohol in general and are more likely to abstain when it comes to alcohol consumption. However, they still experience higher levels of alcohol-related harm than wealthier groups at the same consumption level. [5]

Alcohol Consumption Harmful Levels

According to the global study on alcohol use and burden for 195 countries and territories, between 1990 and 2016, it has been shown that the popular view of the health benefits of alcohol needs to be revised, especially as more developed methods and analyses continue to show how much alcohol consumption contributes to global death and disability. The results of this study have shown that the safest level of drinking is none, in addition to the fact that alcohol consumption contributes to health loss from many causes and exacts its toll across the lifespan. [6] In addition, another study in the UK has shown that there is no safe dose of alcohol for the brain and that moderate consumption is associated with more widespread adverse effects on the brain than previously recognised. [7] In addition, a study in China, published in 2019, concluded that genetic epidemiology has shown that the possible protective effects of moderate alcohol intake against stroke are largely non-causal. [8] Moreover, according to the 2020-2025 Dietary Guidelines for Americans, it is mentioned that “Emerging evidence suggests that even drinking within the recommended limits may increase the overall risk of death from various causes, such as from several types of cancer and some forms of cardiovascular disease. Alcohol has been found to increase risk for cancer, and for some types of cancer, the risk increases even at low levels of alcohol consumption (less than 1 drink in a day).” [9] A recent study of alcohol flush makes daily recommended consumption even an outdated term, particularly in certain East Asian countries like Japan, Korea and Taiwan, where over 30~45 % of citizens inherited deficiency in the enzyme aldehyde dehydrogenase 2 (ALDH2), which results in alcohol flush and significant higher carcinomic risk. [10] Furthermore, the CDC has mentioned that although past studies have shown that moderate alcohol consumption has protective health benefits (e.g., decreasing risk of heart disease), recent studies show this may not be true. While some studies have found better health outcomes among moderate drinkers, it's impossible to conclude whether these improved outcomes are caused by moderate alcohol consumption or other differences in behaviours or genetics between people who drink moderately and those who don't. [11]

Public Health prevention levels of alcohol consumption

A wide range of interventions targeted at lowering health risks or dangers is included under the concept of prevention. Primary prevention aims to prevent disease or injury before its appearance, while secondary prevention aims to detect diseases at early stages before symptoms' onsets occur [12]

Regarding alcohol consumption, primary prevention is a technique for addressing the risk factors and enhancing the protective variables associated with early alcohol use. [13-14] Health promotion is essential in tackling public health issues. [15] Evidence-based management of unhealthy alcohol consumption in primary health care has been advocated by the World Health Organisation since 1979, particularly the use of Screening and Brief Intervention (SBI), which is now accepted as best practice and recommended by guidelines both at national and international levels. [16-18]

When considering the role of primary healthcare practitioners in alcohol-related problems, the SBIRT principle can be used to summarise the actions to be taken. This principle calls for: Screening for alcohol use and alcohol-related problems, Brief Intervention for hazardous and, in some cases, harmful drinking, and Referral to Specialised Treatment for people with Alcohol Use Disorders (AUD).[19-20] This approach can also be useful when applying other determinants of health, such as gender, and is currently being proposed as a screening method for depression in specific ethnic groups. [21-22] SBIRT training and implementation can be part of the training for health professionals, and its implementation is recommended. [23-25]

Alcohol consumption and its consequences on health are underdiagnosed and undertreated. [26-27] Health practitioners have a key role in identifying early warning signs and risk conducts: measures which fall under the umbrella of secondary prevention. Also, health practitioners are irreplaceable when effectively treating conditions and consequences and preventing recurrence. [28]

Interventions can be brief and effective in the early stages of problematic drinking. The majority of heavy drinkers wait until their alcohol consumption is serious before seeking help. As a result, secondary alcohol prevention measures can be used in a variety of societal settings, including primary care, hospital care, occupational/student healthcare, and social services. [29] At the current state of neuro-scientific knowledge, it is possible to go further in the logic that led to the integration of psychosocial and pharmacological approaches. This would be done by attempting to remove the shadows of social judgment that, at the moment, are aiming for a treatment course that is directed toward complete abstinence. [27]

Factors beyond the health sector, particularly social, economic, and political pressures, have a significant impact on health. These forces largely shape how people grow, live, work, and age, as well as the institutions in place to address health requirements, resulting in health disparities between and within countries. These factors are known as social determinants of health. [30]

Despite lower average consumption levels, evidence suggests that populations of low socioeconomic positions have a higher burden of alcohol-related disease. The amount of alcohol consumed, in addition to the pattern of consumption and the quality of alcohol ingested, influence health outcomes and socioeconomic implications. These three determinants again shape and are shaped by wider social determinants related to socioeconomic context and position, exposure and vulnerability. As an example, in the European region, it has been observed that differences in alcohol intake across the social gradient are not the only contributing factor to alcohol-related fatalities and health problems. [31-32] Gender, age, socioeconomic group and education level are some of the factors that have been related to the risk of alcohol misuse. [31]

Specific populations can also have specific approaches when it comes to health promotion. In the case of young people, specific risk factors for alcohol abuse have been described, such as parental substance abuse or favourable attitudes towards alcohol abuse, family dysfunction or school failure. [33-34] Also, protective factors have been described in young people, such as participation in supervised leisure activities and a sense of belonging/connectedness to community, school and family. [35-36] As these specific factors exist, early comprehensive educational interventions have been settled. Alcohol consumption typically begins during adolescence, and the school can be an important setting for

intervention as it is the institution with the most continuous and intensive contact with underage youth. [37] Literature on the efficacy of school-based alcohol prevention programs shows a positive effect, but more research needs to be done. [38-39]

As alcohol consumption is a worldwide public health issue, dozens of initiatives have risen to help affected individuals. The National Institute on Alcohol Abuse and Alcoholism (NIAAA) and the National Council on Alcoholism and Drug Dependence (NCADD) are two examples of national initiatives in the United States, but other international organisations have also played a great role, such as Alcoholics Anonymous which is present in around 180 countries of the European Alcohol Policy Alliance with presence in countries of the European region. [40-41]

Social effect and human rights

Like other health concerns, engagement with alcohol is tied to a variety of multifaceted factors, ranging from the individual level (incl. genetics) to the population level (e.g. cultural and societal factors), and alcohol consumption varies based on gender, origin or ethnicity. Indicators of socioeconomic status (e.g. education, income and profession) tend to be prominent predictors of health behaviours and health conditions and are generally positively correlated with health. People with higher socioeconomic status (SES) tend to consume alcohol more often than others. Among people who drink, groups of low SES tend to drink larger amounts of alcohol. [43]

Over the course of development, the social environment of a person shifts from the family in childhood to peers and school in adolescence. This means that parental alcohol usage seems to have a greater influence before the age of 15 and decreases over time. [44]

Social norms around alcohol are broadly shaped by the media through advertising, product placements and narratives across a variety of sources, including films, television, social media channels and other forms of entertainment. Although the retail and distribution of alcohol are largely regulated, individuals are exposed to a great range of advertising messages for alcohol and distilled beverages. Since the release of flavoured alcoholic blends in the 1980s, the alcohol industry has been utilising marketing targeted at young people as a whole and young women specifically. Although the industry claims that its promotional strategies target adults aged 21 to 29, products such as flavour-infused alcoholic beverages continue to appeal to younger consumers. [43]

Among the ethnic and cultural groups surveyed in a study conducted in the US, Whites have the highest overall alcohol consumption from the age of 12 (57.4 %), while Native Americans report the highest binge drinking rates (30.2 per cent). Cultural norms and attitudes are significant predictors of present and frequent excessive alcohol consumption, although only a limited number of studies have explored variability within ethnic and cultural groups. [43]

The role that discrimination and stress, e.g. based on the stigma associated with ethnicity or group affiliation, plays in health-related risk behaviour, including alcohol consumption, is extensively proven. Although the degree of impact of factors such as social stratification and social selection remains unclear, environmental aspects, such as neighbourhood characteristics and alcohol availability, have also shown significant influence on drinking behaviour. [43]

Globally, men drink more alcohol than women, and women in industrialised countries drink more than women in developing countries. Previous studies have shown, in particular, that gender differences in the attitude towards alcohol could be due to the stronger social stigmatisation of women who consume and abuse alcohol. This seems to be more apparent in certain cultures. [43]

Laws and measurements

The "SAFER" initiative, launched by the WHO in collaboration with other international organisations, demonstrates the five most cost-effective interventions (mentioned in the next paragraphs) are in focus in order to reduce alcohol-related harm. With the aim to assist governments with implementing the above-mentioned interventions, a technical package has been created. According to it:

Reduction of alcohol availability should be prioritised and introduced through the elimination of illicit production with enforcement of licensing regulations, establishing a minimum age for legal consumption and a framework for consumption in public spaces. [45-46]

Enforcement of drunk driving countermeasures should be accompanied by effective control, public awareness campaigns, efficient and viable alternatives for transportation, as well as a supporting system for offenders, in terms of alcohol abuse. However, those regulations should be customised in terms of fatality rates in each particular setting, with a shift to preemptive or ex-post regulation in areas with low and high rates, respectively. Random Breathing Test programs can result in an at least 20% reduction of car crashes during “drinking hours”. Alcohol advertising, sponsorship and promotion should be restricted with the enforcement of comprehensive measures in marketing of all types, regulated by governments or independent bodies. [46]

Last but not least, taxes and pricing policies should be performed, as there is a direct correlation between alcohol prices and reduction of alcohol consumption and associated harm. [46] Specifically, according to studies, a 10% increase in alcohol prices can result in a 3% to 10% reduction in alcohol consumption, while according to WHO Europe, a 50% increase in alcohol taxation is considered to be the most cost-effective measure for the reduction of alcohol consumption . [47-48]

Major strategies

Alcohol Consumption is considered to affect 13 out of the 17 Sustainable Development Goals (SDGs), while itself is included in the SDGs agenda, under the SDG 3.5: “strengthen the prevention and treatment of substance abuse, including narcotic drug abuse and harmful use of alcohol”, with two specific indicators; 3.5.1: Coverage of treatment interventions (pharmacological, psychosocial and rehabilitation and aftercare services) for substance use disorders & 3.5.2: Harmful use of alcohol, defined according to the national context as alcohol per capita consumption (aged 15 years and older) within a calendar year, in liters of pure alcohol. [49]

In May 2010, a Global strategy to reduce the harmful use of alcohol was adopted by 193 Member States of the WHO, in the WHA, with the vision of “improved health and social outcomes for individuals, families and communities, with considerably reduced morbidity and mortality due to harmful use of alcohol and their ensuing social consequences”. In order to ensure the success of this strategy, a 2022-2030 Strategy was adopted at the 75th WHA. [50]

Youth

When an individual under the legal age drinks alcohol, it is referred to as underage drinking. It constitutes a serious threat, while at the same time being deeply rooted in the culture. More youth consume alcohol than smoke or use illicit drugs. By 18 years, more than 70% of teens have had at least one alcoholic drink in their lifetime. 40% of adults, who started drinking before the age 15, have shown clear evidence of alcohol dependence. Society along with youth can collaborate together to create a community where young people can grow up and flourish, while feeling positive about themselves, without alcohol consumption. Members of the community should deliver the message that underage drinking is not safe. Youth can learn about the harm of alcohol consumption. They can change how they and others think about drinking. [51]

Medical Education

Primary health care has long been seen as an appropriate setting for promoting individuals' and communities' health. [52] General practitioners (GPs) are ideally placed to prevent and manage alcohol misuse. [53] Several preventive approaches such as screening and brief intervention have emerged as cost-effective preventative actions for alcohol misuse. Therefore, these methodologies that might be or are currently included in medical practice. [54]

The importance and characteristics of substance abuse as a mainstream medical illness warrant a place in medical curricula for screening and management. [55] Medical education is the training in which it is ensured physicians will acquire the competencies, skills and aptitudes to allow them to practice in a professional setting. [56] Despite the frequency and consequences of hazardous substance use, medical

education in this area is insufficient, leaving physicians without the competence they need to successfully handle one of the most frequent and costly health problems. [57-59]

As medical education does not end until the retirement from active practice, techniques and methodologies might still be learnt during different professional stages of the medical profession. Low screening and intervention rates have been linked to a lack of training and low clinician self-efficacy, according to research. [56,60] Teaching about unhealthy substance use can be incorporated into internal medicine and primary healthcare residency training and would be beneficial to do so, given the burden of disease and the effective therapies that can be delivered to patients by internal medicine and general physicians. [59,61,62]

While there have been improvements regarding including alcohol and other drug abuse in medical curricula for the past decades, some topics are rarely included in the formal curriculum, and future reforms to medical education should address these. [57,63] There is evidence of an improvement of students' knowledge when shifting from an old-based to a new undergraduate core curriculum on alcohol use disorders. [64]

Advocacy against Alcohol Consumption

To conclude, several effective measures, against excessive alcohol consumption, exist such as those recommended by the CDC including regulation of alcohol outlet density, increasing alcohol Taxes, commercial host liability, maintaining limits on days and hours of sale, electronic screening and brief Intervention, in addition to enhanced enforcement of laws prohibiting sales to minors.[65] In addition, the WHO has an effective list of NCD best buys, including those relevant to reducing harmful use of alcohol such as “

- *Increase excise taxes on alcoholic beverages*
- *Enact and enforce bans or comprehensive restrictions on exposure to alcohol advertising (across multiple types of media)*
- *Enact and enforce restrictions on the physical availability of retailed alcohol (via reduced hours of sale)*
- *Enact and enforce drink-driving laws and blood alcohol concentration limits via sobriety checkpoints*
- *Provide brief psychosocial intervention for persons with hazardous and harmful alcohol use*
- *Carry out regular reviews of prices in relation to level of inflation and income*
- *Establish minimum prices for alcohol where applicable*
- *Enact and enforce an appropriate minimum age for purchase or consumption of alcoholic beverages and reduce density of retail outlets*
- *Restrict or ban promotions of alcoholic beverages in connection with sponsorships and activities targeting young people*
- *Provide prevention, treatment and care for alcohol use disorders and comorbid conditions in health and social services*
- *Provide consumer information about, and label, alcoholic beverages to indicate, the harm related to alcohol.” [66]*

References:

1. World Health Organization. Alcohol (2022). Available from: <https://www.who.int/news-room/fact-sheets/detail/alcohol> [Accessed June 22, 2022]
2. Centers for Disease Control and Prevention. Alcohol Use and Your Health (2022) Available from: <https://www.cdc.gov/alcohol/fact-sheets/alcohol-use.htm> [Accessed June 22, 2022]
3. National Institute on Alcohol Abuse and Alcoholism. Alcohol's Effects on the Body. Available from: <https://www.niaaa.nih.gov/alcohols-effects-health/alcohols-effects-body> [Accessed June 22, 2022]
4. Rehm J. The risks associated with alcohol use and alcoholism. *Alcohol Res Health*. 2011;34(2):135-43. PMID: 22330211; PMCID: PMC3307043. Available from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3307043/>
5. World Health Organization Europe. Alcohol and Inequities - Guidance for addressing inequities in alcohol-related harm (2014). Available from: https://www.euro.who.int/_data/assets/pdf_file/0003/247629/Alcohol-and-Inequities.pdf [Accessed June 22, 2022]
6. GBD 2016 Alcohol Collaborators. Alcohol use and burden for 195 countries and territories, 1990-2016: a systematic analysis for the Global Burden of Disease Study 2016. *Lancet*. 2018 Sep 22;392(10152):1015-1035. doi: 10.1016/S0140-6736(18)31310-2. Epub 2018 Aug 23. Erratum in: *Lancet*. 2018 Sep 29;392(10153):1116. Erratum in: *Lancet*. 2019 Jun 22;393(10190):e44. PMID: 30146330; PMCID: PMC6148333.
7. Topiwala A, Ebmeier KP, Maullin-Sapey T. No safe level of alcohol consumption for brain health: observational cohort study of 25,378 UK Biobank participants (2021). Available from: <https://www.medrxiv.org/content/10.1101/2021.05.10.21256931v1.full.pdf>
8. Millwood IY, Walters RG, Mei XW, Guo Y, Yang L, Bian Z, Bennett DA, Chen Y, Dong C, Hu R, Zhou G, Yu B, Jia W, Parish S, Clarke R, Davey Smith G, Collins R, Holmes MV, Li L, Peto R, Chen Z; China Kadoorie Biobank Collaborative Group. Conventional and genetic evidence on alcohol and vascular disease aetiology: a prospective study of 500 000 men and women in China. *Lancet*. 2019 May 4;393(10183):1831-1842. doi: 10.1016/S0140-6736(18)31772-0. Epub 2019 Apr 4. PMID: 30955975; PMCID: PMC6497989.
9. United States Department for Agriculture. Dietary Guidelines for Americans 2020-2025. Available from: https://www.dietaryguidelines.gov/sites/default/files/2021-03/Dietary_Guidelines_for_Americans-2020-2025.pdf [Accessed June 22, 2022]
10. Chang JS, Hsiao JR, Chen CH. ALDH2 polymorphism and alcohol-related cancers in Asians: a public health perspective. *J Biomed Sci*. 2017 Mar 3;24(1):19. doi: 10.1186/s12929-017-0327-y. PMID: 28253921; PMCID: PMC5335829.
11. Centres for Disease Control and Prevention. Dietary Guidelines for Alcohol (2022). Available from: <https://www.cdc.gov/alcohol/fact-sheets/moderate-drinking.htm> [Accessed June 22, 2022]
12. Institute for Work and Health. Primary, secondary and tertiary prevention (2015) Available from: <https://www.iwh.on.ca/what-researchers-mean-by/primary-secondary-and-tertiary-prevention> [Accessed June 22, 2022]
13. Rowland B, Toumbourou JW, Satyen L, Tooley G, Hall J, Livingston M, Williams J. Associations between alcohol outlet densities and adolescent alcohol consumption: a study in Australian students. *Addict Behav*. 2014 Jan;39(1):282-8. doi: 10.1016/j.addbeh.2013.10.001. Epub 2013 Oct 10. PMID: 24183302.
14. Spooner C, Hetherington K. Social determinants of drug use. Sydney, Australia: National Drug and Alcohol Research Centre, University of New South Wales; 2005. Available from: <https://ndarc.med.unsw.edu.au/resource/social-determinants-drug-use>
15. Kumar S, Preetha G. Health promotion: an effective tool for global health. *Indian J Community Med*. 2012;37(1):5-12. doi:10.4103/0970-0218.94009
16. WHO Expert Committee on Problems Related to Alcohol Consumption. Meeting Meeting 1979: Geneva S. Problems related to alcohol consumption: report of a WHO expert committee [meeting held in Geneva from 20 to 26 November 1979]. Geneva: World Health Organization; 1980.
17. De-Xing Zhang, Shannon Tsz-Shan Li, Queenie Kwan-Yee Lee, Koey Hoi-Shuen Chan, Jean Hee Kim, Benjamin Hon-Kei Yip, Roger Yat-Nork Chung, Alvin Ho-Cheuk Wong, Yuan Fang, Miaoyin Liang, Martin Chi-Sang Wong, Systematic Review of Guidelines on Managing Patients

- with Harmful Use of Alcohol in Primary Healthcare Settings, *Alcohol and Alcoholism*, Volume 52, Issue 5, September 2017, Pages 595–609, <https://doi.org/10.1093/alcalc/agx034>
18. Anderson P, O'Donnell A, Kaner E. Managing Alcohol Use Disorder in Primary Health Care. *Curr Psychiatry Rep.* 2017;19(11):79. Published 2017 Sep 14. doi:10.1007/s11920-017-0837-z
 19. Jürgen Rehm, Peter Anderson, Jakob Manthey, Kevin D. Shield, Pierluigi Struzzo, Marcin Wojnar, Antoni Gual, Alcohol Use Disorders in Primary Health Care: What Do We Know and Where Do We Go?, *Alcohol and Alcoholism*, Volume 51, Issue 4, July/August 2016, Pages 422–427, <https://doi.org/10.1093/alcalc/agv127>
 20. Substance Abuse and Mental Health Services Administration. Screening, Brief Intervention, and Referral to Treatment (SBIRT). Available from: <https://www.samhsa.gov/sbirt> [Accessed June 22, 2022]
 21. Hammock K, Velasquez MM, Alwan H, von Sternberg K. Alcohol Screening, Brief Intervention, and Referral to Treatment (SBIRT) for Girls and Women. *Alcohol Res.* 2020 Aug 13;40(2):07. doi: 10.35946/arcr.v40.2.07. PMID: 34646716; PMCID: PMC8496756.
 22. Hankerson, S.H., Shelton, R., Weissman, M. et al. Study protocol for comparing Screening, Brief Intervention, and Referral to Treatment (SBIRT) to referral as usual for depression in African American churches. *Trials* 23, 93 (2022). <https://doi.org/10.1186/s13063-021-05767-8>
 23. Wamsley M, Satterfield JM, Curtis A, Lundgren L, Satre DD. Alcohol and Drug Screening, Brief Intervention, and Referral to Treatment (SBIRT) Training and Implementation: Perspectives from 4 Health Professions. *J Addict Med.* 2018 Jul/Aug;12(4):262-272. doi: 10.1097/ADM.0000000000000410. PMID: 30063221.
 24. United States Preventive Services Task Force. Unhealthy Alcohol Use in Adolescents and Adults: Screening and Behavioral Counseling Interventions (2018). Available from: <https://www.uspreventiveservicestaskforce.org/uspstf/recommendation/unhealthy-alcohol-use-in-adolescents-and-adults-screening-and-behavioral-counseling-interventions> [Accessed June 22, 2022]
 25. Impact/Justice Research and Action Center. SBIRT Evaluation: Final Report. Available from: <https://impactjustice.org/wp-content/uploads/SBIRT-Final-Report-011619.pdf> [Accessed June 22, 2022]
 26. Grant BF, Goldstein RB, Saha TD, et al. Epidemiology of DSM-5 Alcohol Use Disorder: Results From the National Epidemiologic Survey on Alcohol and Related Conditions III. *JAMA Psychiatry.* 2015;72(8):757–766. doi:10.1001/jamapsychiatry.2015.0584
 27. Maremmani I, Cibin M, Pani PP, Rossi A, Turchetti G. Harm Reduction as "Continuum Care" in Alcohol Abuse Disorder. *Int J Environ Res Public Health.* 2015;12(11):14828-14841. Published 2015 Nov 19. doi:10.3390/ijerph121114828
 28. Alcohol and Drug Foundation. Prevention and early intervention. Available from: <https://adf.org.au/reducing-risk/aod-mental-health/prevention-early-intervention/> [Accessed June 22, 2022]
 29. Nehlin Gordh, C. 2012. Alcohol Use and Secondary Prevention in Psychiatric Care. *Acta Universitatis Upsaliensis. Digital Comprehensive Summaries of Uppsala Dissertations from the Faculty of Medicine* 803. 47 pp. Uppsala. ISBN 978-91-554-8451-4. Available from: <http://www.diva-portal.org/smash/get/diva2:546736/FULLTEXT01.pdf>
 30. WHO. Geneva. Commission of Social Determinants of Health. Closing the gap in a generation: health equity through action on the social determinants of health. Final Report of the Commission on Social Determinants of Health. 2008. Available from: <https://www.who.int/publications-detail-redirect/WHO-IER-CSDH-08.1>
 31. Schmidt LA, Mäkelä P, Rehm J, Room R. Alcohol and social determinants of health. In: Blas E, Sivasankara Kurup A, editors. Priority public health conditions: from learning to action on social determinants of health. Geneva: World Health Organization; 2008. Available from: https://www.researchgate.net/publication/303286663_Alcohol_Equity_and_social_determinants
 32. World Health Organization Regional Office for Europe. Evidence for the effectiveness and cost-effectiveness of interventions to reduce alcohol-related harm. Available from: https://www.euro.who.int/__data/assets/pdf_file/0020/43319/E92823.pdf [Accessed June 22, 2022]
 33. Kristjansson AL, James JE, Allegrante JP, Sigfusdottir ID, Helgason AR. Adolescent substance use, parental monitoring, and leisure-time activities: 12-year outcomes of primary prevention in

- Iceland. Preventive medicine. 2010 Aug 1;51(2):168-71. Available from: <https://pubmed.ncbi.nlm.nih.gov/20478332/>
34. Spirito A, Hernandez L, Cancilliere MK, Graves H, Barnett N. Improving parenting and parent-adolescent communication to delay or prevent the onset of alcohol and drug use in young adolescents with emotional/behavioral disorders: A pilot trial. *Journal of child & adolescent substance abuse*. 2015 Sep 3;24(5):308-22. Available from: <https://psycnet.apa.org/record/2015-37129-009>
 35. National Public Health Partnership. The Language of Prevention. NPHP. 2006. Available from: http://www.health.vic.gov.au/archive/archive2014/nphp/publications/language_of_prevention.pdf
 36. Alcohol and Drug Foundation. Prevention strategies. Available from: <https://adf.org.au/reducing-risk/community-approaches/prevention-strategies/> [Accessed June 22, 2022]
 37. Office of the Surgeon General (US); National Institute on Alcohol Abuse and Alcoholism (US); Substance Abuse and Mental Health Services Administration (US). The Surgeon General's Call to Action To Prevent and Reduce Underage Drinking. Rockville (MD): Office of the Surgeon General (US); 2007. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK44360/>
 38. Strøm, H.K., Adolfsen, F., Fossum, S. et al. Effectiveness of school-based preventive interventions on adolescent alcohol use: a meta-analysis of randomized controlled trials. *Subst Abuse Treat Prev Policy* 9, 48 (2014). <https://doi.org/10.1186/1747-597X-9-48>
 39. Stigler MH, Neusel E, Perry CL. School-based programs to prevent and reduce alcohol use among youth. *Alcohol Res Health*. 2011;34(2):157-162. Available from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3860568/>
 40. Alcoholics Anonymous. A.A. Around the World. Available from: <https://www.aa.org/aa-around-the-world> [Accessed June 22, 2022]
 41. Centers for Disease Control and Prevention. Preventing Excessive Alcohol Use (2022). Available from: <https://www.cdc.gov/alcohol/fact-sheets/prevention.htm> [Accessed June 22, 2022]
 42. World Health Organization. Tackling NCDs (2017). Available from: <bitstream/handle/10665/259232/WHO-NMH-NVI-17.9-eng.pdf> [Accessed June 22, 2022]
 43. Sudhinaraset M, Wigglesworth C, Takeuchi DT. Social and Cultural Contexts of Alcohol Use: Influences in a Social-Ecological Framework. *Alcohol Res*. 2016;38(1):35-45. PMID: 27159810; PMCID: PMC4872611. Available from: <https://pubmed.ncbi.nlm.nih.gov/27159810/>
 44. Dawson DA. The link between family history and early onset alcoholism: earlier initiation of drinking or more rapid development of dependence? *J Stud Alcohol*. 2000 Sep;61(5):637-46. doi: 10.15288/jsa.2000.61.637. PMID: 11022800.
 45. World Health Organization. The SAFER Initiative - a world free of alcohol-related harm. Available from: <https://www.who.int/initiatives/SAFER> [Accessed June 22, 2022]
 46. World Health Organization. The SAFER technical package (2019). Available from: <https://www.who.int/publications/i/item/the-safer-technical-package> [Accessed June 22, 2022]
 47. Elder RW, Lawrence B, Ferguson A, Naimi TS, Brewer RD, Chattopadhyay SK, Toomey TL, Fielding JE; Task Force on Community Preventive Services. The effectiveness of tax policy interventions for reducing excessive alcohol consumption and related harms. *Am J Prev Med*. 2010 Feb;38(2):217-29. doi: 10.1016/j.amepre.2009.11.005. PMID: 20117579; PMCID: PMC3735171.
 48. World Health Organization. New WHO signature initiative shows raising alcohol taxes could save 130 000 lives per year (2022). Available from: <https://www.who.int/europe/news/item/23-02-2022-new-who-signature-initiative-shows-raising-alcohol-taxes-could-save-130-000-lives-per-year> [Accessed June 22, 2022]
 49. World Health Organization Regional Office for Europe. Alcohol consumption and sustainable development. Available from: https://www.euro.who.int/__data/assets/pdf_file/0008/464642/Alcohol-consumption-and-sustainable-development-factsheet-eng.pdf [Accessed June 22, 2022]
 50. World Health Organization. Alcohol, Drugs and Addictive Behaviours Unit. Available from: <https://www.who.int/teams/mental-health-and-substance-use/alcohol-drugs-and-addictive-behaviours/alcohol/governance/global-alcohol-strategy> [Accessed June 22, 2022]
 51. United States Department of Health and Human Services. The Surgeon General's call to action: to prevent and reduce underage drinking - what it means to you. A guide to action for communities. Available from: <https://www.hhs.gov/sites/default/files/underage-drinking-community-guide.pdf> [Accessed June 22, 2022]

52. World Health Organization. Primary Health Care. Available from: https://www.who.int/health-topics/primary-health-care#tab=tab_1 [Accessed June 22, 2022]
53. Lock C, Wilson G, Kaner E, et al. , A Survey of General Practitioners' Knowledge, Attitudes and Practices Regarding the Prevention and Management of Alcohol-Related Problems: An Update of a World Health Organisation Survey Ten Years on, 2009 London Alcohol Education and Research Council. Available from: <https://pubmed.ncbi.nlm.nih.gov/21690169/>
54. Hutubessy R, Chisholm D, Edejer T. , Generalised Cost-Effectiveness Analysis for National-Level Priority Setting in the Health Sector. Cost Effectiveness and Resource Allocation, 2003 Geneva, World Health Organisation. Available from: <https://resource-allocation.biomedcentral.com/articles/10.1186/1478-7547-1-8>
55. Jackson, A.H., Alford, D.P., Dubé, C.E. et al. Internal medicine residency training for unhealthy alcohol and other drug use: recommendations for curriculum design. BMC Med Educ 10, 22 (2010). <https://doi.org/10.1186/1472-6920-10-22>
56. World Medical Association. WMA Statement on Medical Education (2020). Available from: <https://www.wma.net/policies-post/wma-statement-on-medical-education/> [Accessed June 22, 2022]
57. Dubé CE, Lewis DC. Medical Education in Alcohol and Other Drugs: Curriculum Development for Primary Care. Alcohol Health Res World. 1994;18(2):146-153. (<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6876408/>)
58. Lundgren L, Salas-Wright CP, Amodeo M, Krull I, Alford DP. The Alcohol and Other Drugs Education Program for Social Work Faculty: A Model for Immersion Training. J Soc Work Pract Addict. 2018;18(1):8-29. doi:10.1080/1533256X.2017.1412980
59. Jackson, A.H., Alford, D.P., Dubé, C.E. et al. Internal medicine residency training for unhealthy alcohol and other drug use: recommendations for curriculum design. BMC Med Educ 10, 22 (2010). <https://doi.org/10.1186/1472-6920-10-22>
60. Eileen F. S. Kaner, Nick Heather, Brian R. Mcavoy, Catherine A. Lock, Eilish Gilvarry, INTERVENTION FOR EXCESSIVE ALCOHOL CONSUMPTION IN PRIMARY HEALTH CARE: ATTITUDES AND PRACTICES OF ENGLISH GENERAL PRACTITIONERS, Alcohol and Alcoholism, Volume 34, Issue 4, July 1999, Pages 559–566, <https://doi.org/10.1093/alcalc/34.4.559>
61. Le, K.B., Johnson, J.A., Seale, J.P. et al. Primary Care Residents Lack Comfort and Experience with Alcohol Screening and Brief Intervention: A Multi-Site Survey. J GEN INTERN MED 30, 790–796 (2015). <https://doi.org/10.1007/s11606-015-3184-y>
62. Seale, J.P., Shellenberger, S. & Clark, D.C. Providing competency-based family medicine residency training in substance abuse in the new millennium: a model curriculum. BMC Med Educ 10, 33 (2010). <https://doi.org/10.1186/1472-6920-10-33>
63. Carroll, J., Goodair, C., Chaytor, A. et al. Substance misuse teaching in undergraduate medical education. BMC Med Educ 14, 34 (2014). <https://doi.org/10.1186/1472-6920-14-34>
64. Steed H, Groome M, Rice P et al., Evaluation of a New Core Curriculum on Alcohol Use Disorders for Undergraduate Medical Students, Alcohol and Alcoholism, Volume 45, Issue 4, July-August 2010, Pages 395–397, <https://doi.org/10.1093/alcalc/agg024>
65. Preventing excessive alcohol use [Internet]. Cdc.gov. 2022 [cited 2022 Jul 1]. Available from: <https://www.cdc.gov/alcohol/fact-sheets/prevention.htm>
66. World Health Organization. (2017). Tackling NCDs: 'best buys' and other recommended interventions for the prevention and control of noncommunicable diseases. World Health Organization. <https://apps.who.int/iris/handle/10665/259232>. License: CC BY-NC-SA 3.0 IGO