AIM Alcohol in Moderation DIGEST ONLINE

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Contents

(Click on an item/ page no. to be taken directly to your choice of article)

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France

On 3 July, the Journal Officiel in France published a Decree stating that it will authorise employers to prohibit or restrict the consumption of alcohol on the premises. The Decree allows employers to ban alcohol when its consumption "is likely to affect the safety and physical and mental health of workers", giving employers the means to increase safety in the workplace through protecting health and avoiding accidents. The Decree does not envisage a blanket ban but leaves the extent of the restriction to the discretion of the employer. Article R. 4228-20 of the Labour Code (Code du travail) already restricts consumption in the workplace to wine, beer, cider and le poiré (pear cider).

Czech Republic

The Czech Republic introduced a ban on sales of hard liquor from all outlets on July 18, as deaths and injuries from methanol-laced bootleg alcohol rose and as Poland prohibited sales of spirits imported from its southern neighbour.

Norway

Sylvi Listhaug, Minister of Agriculture and Food in Norway has said that although the government has no intention of lifting its prohibition on alcohol advertisements, it is to introduce legislative amendments permitting alcohol producers to post "sober and factual" information about their products on line. Listhaug conceded that there are "grey areas" between information and marketing.

US

Proposed legislation introduced in the California legislature will allow underage college students enrolled in winemaking or beer brewing courses to taste alcohol in class, provided they do not swallow the drinks. AB 1989 passed in the State Assembly by a 73-2 vote and by the Senate Governmental Organization Committee by a 10-0 vote on 24th June.

Kenya

The Senate of Kenya is considering legislation to ban the sale of alcohol in stadiums, public parks, and public beaches, among other venues. The bill would limit alcohol sales to licensed bars and restaurants located at least 300 meters away from primary and secondary schools, and would make illegal sales punishable by six months imprisonment or a fine of KES 50,000 shillings.

Finland

A planned alcohol legislation overhaul was overturned by government parties in Finland and the original schedule for the reform has been postponed indefinitely. This means that sales restrictions on beer and the opening hours of licensed premises will remain as they are for the time being. However, the reformation of the Temperance Act continues and the Government's aim is to get the Act into force in 2015. The Act is to strengthen the role of municipalities in alcohol abuse prevention. Also new legislation restricting advertising alcohol will enter into force in Finland at the beginning of 2015.

A Mendelian randomization assessment of alcohol and cardiovascular disease

Holmes MV, Dale CE, Zuccolo L, et al (a total of 155 authors). Association between alcohol and cardiovascular disease: Mendelian randomisation analysis based on individual participant data. BMJ 2014;349:g4164 doi: 10.1136/bmj.g4164.

Authors' Abstract

Objective To use the rs1229984 variant in the alcohol dehydrogenase 1B gene (ADH1B) as an instrument to investigate the causal role of alcohol in cardiovascular disease.

Design Mendelian randomisation meta-analysis of 56 epidemiological studies.

Participants 261 991 individuals of European descent, including 20 259 coronary heart disease cases and 10 164 stroke events. Data were available on ADH1B rs1229984 variant, alcohol phenotypes, and cardiovascular biomarkers.

Main outcome measures Odds ratio for coronary heart disease and stroke associated with the ADH1B variant in all individuals and by categories of alcohol consumption.

Results Carriers of the A-allele of ADH1B rs1229984 consumed 17.2% fewer units of alcohol per week (95% confidence interval 15.6% to 18.9%), had a lower prevalence of binge drinking (odds ratio 0.78 (95% CI 0.73 to 0.84)), and had higher abstention (odds ratio 1.27 (1.21 to 1.34)) than non-carriers. Rs1229984 A-allele carriers had lower systolic blood pressure (-0.88 (-1.19 to -0.56) mm Hg), interleukin-6 levels (-5.2% (-7.8 to -2.4%)), waist circumference (-0.3 (-0.6 to _0.1) cm), and body mass index (-0.17 (-0.24 to -0.10) kg/m2). Rs1229984 A-allele carriers had lower odds of coronary heart disease (odds ratio 0.90 (0.84 to 0.96)). The protective association of the ADH1B rs1229984 A-allele variant remained the same across all categories of alcohol consumption (P=0.83 for heterogeneity). Although no association of rs1229984 was identified with the combined subtypes of stroke, carriers of the A-allele had lower odds of ischaemic stroke (odds ratio 0.83 (0.72 to 0.95)).

Conclusions Individuals with a genetic variant associated with non-drinking and lower alcohol consumption had a more favourable cardiovascular profile and a reduced risk of coronary heart disease than those without the genetic variant. This suggests that reduction of alcohol consumption, even for light to moderate drinkers, is beneficial for cardiovascular health.

Forum Comments

The analysis is based on Mendelian randomization, using rs1229984 variant of ADH1B gene as the instrumental variable. As background, while dozens of genes have been found to relate to alcohol metabolism, the A-allele of rs1229984 SNP is associated with less clearing of alcohol after drinking, and carriers of this allele tend to have flushing and other uncomfortable effects of alcohol. Hence, carriers of such variant (A allele) tend to less frequently be consumers of any alcohol, and are less likely to be heavy drinkers. The frequency of A allele of this SNP is very low in Northern Europeans (1% to 4% in this study), but more common in Asians and central Europeans and others. In the present study, overall 7% of subjects had this allele.

The best recent summary article on alcohol metabolism by Edenberg points out that there are many genes affecting alcohol metabolism, some directly and others (and non-coding areas of genes) that modify the expression of single genes. Also, "With any gene that affects a person's risk of developing a complex disease, the protective effect of this genetic variant can be modulated by the environment" (Edenberg, The Genetics of Alcohol Metabolism, Alcohol Res Health 2007;30:5-13). This raises questions about making generalised statements about the effects of alcohol on disease based on results from the analysis of a single nucleotide polymorphism of a gene.

Problems in using Mendelian randomization for evaluating the complex association between alcohol and disease: Forum members have real concern that the allele upon which the present study is based may account for only a small percentage of the effects of genetic and environmental factors related to the consumption of alcohol in the population (this percentage is not mentioned in the present paper). Another fairly recent study on another important gene related to alcohol metabolism, ALDH2, stated that its alleles "explained only 3% of the variance in reported alcohol intake."(Au Yeung SL, et al. Am J Epidemiol 2012; DOI: 10.1093/aje/kwr462), which was reviewed by our Forum in 2012 (available at www.bu.edu/alcohol-forum/critique-076). Thus, any single allele of a gene modifying alcohol metabolism may be a poor instrumental variable by which to provide general statements on alcohol consumption and disease.

As described by Forum member Djoussé, "Mendelian randomization (i.e., using an instrumental variable, IV, to judge effects) is a great tool for epidemiology only when used appropriately. Consequently, there is a real danger of misusing a good tool. There are

three major assumptions that an ideal instrumental variable must have:

1. Instrumental variable (here ADH1B SNP) must be related to the exposure (here alcohol intake); the paper provides evidence that carriers of the A allele of that SNP drank fewer alcohol units, so this seems satisfactory from this aspect to use as an IV.

2. The instrumental variable must be unrelated to confounders of the relation of alcohol use with cardiovascular disease (CVD), meaning no relation between ADH1B allele and typical confounders of the alcohol-CVD relation; there are some results in the paper indicating that this gene may have other (non-alcohol-related) effects on CVD and its risk factors.

3. Conditional on confounders and exposure (alcohol intake), ADH1B must be independent of CVD risk; in other words, ADH1B SNP does not provide additional information once we have measured confounders and we know the drinking status; this is equivalent to 'No direct causal association between the instrumental variable and CVD (that does not go through alcohol use).'

"Violation of any of those 3 assumptions could lead to biased results, and suggests that the proposed IV would not be appropriate to use in Mendelian randomization. While assumption #1 above can be easily measured in a study, as the authors did, it is not the case for assumptions 2 and 3. For #2, one must first measure all relevant confounders, and all epidemiologists know that this is seldom possible; there will always be unknown and unmeasured confounders that could influence the results. Further, data presented in the text indicate an association between this SNP and CVD risk factors such as blood pressure, body mass index, inflammatory markers, and lipids.

"For item #3, it is possible that another SNP (or SNPs) or genetic loci may be in linkage disequilibrium (LD) with ADH1B and provide direct causal relation with CVD. In such a case, ADH1B SNP would not be suitable to serve as an instrumental variable, and use of Mendelian randomization with this ADH1B SNP would be inappropriate."

Djoussé continues: "My other concern is a lack of relation between ADH1B allele A and HDL-cholesterol demonstrated in this paper; although possible that CVD benefits provided by alcohol could be independent of HDL (hemostatic factors for example), it may be indicative of a poor choice of instrumental variable. Besides LD and limited knowledge about confounders, other potential limitations of Mendelian randomization not addressed by this paper include canalization: the same phenotype regardless of genotype or environment. References to this include the following: Nitsch et al. AJE 2006;163:397–403; Lawlor et al. Stat Med 27: 1133–1328; Smith et al. Int J Epidemiol 2003;32:1–22; and Hernán MA & Robins JM. Epidemiology 2006;17: 360–372. At least, the authors should have shown a level of uncertainty by using appropriate tone in their conclusions." Added reviewer Finkel: "The last sentence of the conclusion is an unwarranted overreach, an unscientific liberty." As stated by Keil, "The major weakness of this paper is that it draws conclusions from a special and presumably small genetic subgroup of the population and applies it to the total population."

Invited reviewer Kenneth J. Rothman stated: "I don't place much stock in IV analyses. The conclusions are heavily dependent on the assumption that you have an instrument, of which you can rarely be confident. I think of the method as a very blunt instrument and subject to considerable bias for variables that are weakly correlated with exposure and not true instruments. Those concerns would be applicable to the Holmes paper."

Forum member McCormick wrote: "This study is OK apart from the fact that the sample in each arm of the study is consistently systematically biased. In one arm every participant has the rs 1229984 variant of the alcohol dehydrogenase 1B gene (ADH1B). In the other arm nobody does. If there is only one effect of the gene, i.e., unpleasant effects after alcohol drinking leading to a reduction in drinking, and it otherwise sits in the body doing nothing and it is not associated with other abnormal genes, then this study would be fine. However that statement is a rather tall order, as we do not know all of the genes associated with cardiac disease, or with alcohol drinking, or even whether the rs 1229984 variant has some direct non-alcohol effect on cardiac disease or another gene closely associated with it does. So at first sight this study could be said to be comparing apples with oranges."

McCormick continued: "Given the impracticality of a very large, long-term blinded randomised controlled trial of alcohol use in humans, the scientific community is forced to use other less valid methods

to try to establish what is likely to be correct. This study is one of those less valid methods. It can't be ignored, but needs to be considered in conjunction with other studies, e.g., animal model studies, cohort studies, etc., and the totality of evidence used to judge alcohol's effects on CVD. Over the years this process has not rejected the J-shaped curve for the cardio-protective effect of alcohol."

Forum member Zhang added: "Besides assumptions of IV and weak association of the gene with alcohol, there is also the possibility of pleiotropic effects of the ADH1B variant, a potential violation of one of assumptions of IV. In other words, ADH1B polymorphisms influence alcohol metabolism, and therefore influence exposure to both alcohol and its metabolites. If these metabolites influence risk of cardiovascular disease, one of the core assumptions underlying Mendelian randomization is violated. Further, the authors only examined the direction of association of their IV with the outcome, but did not assess the magnitude of effect of association." Zhang concludes: "A true IV is difficult to find, and a weak association between IV and risk factor (that may be the case here) amplifies both the estimate of effect and bias. This is especially the case if the genetic factor not only has an effect on alcohol consumption but also has an effect on CVD through other mechanism, which violates the assumption of the IV method."

Reviewer De Gaetano addressed another weakness of the paper: "This Mendelian paper shows that the protective allele induces persons to drink less, not necessarily to completely avoid drinking. The protection observed in most studies shows a non-linear gradient; this means it is better manifested at low alcohol consumption, while it is less strong as the consumption levels reach far above optimum, and finally disappears and is transformed into harm at very heavy levels of drinking. This does not contradict but is in agreement instead with the conclusions of most prospective studies and meta-analyses that drinking alcohol at low doses offers the best protection against CVD (a J-shaped curve)."

De Gaetano continued: "For example, in our meta-analysis (Di Castelnuovo et al. Alcohol dosing and total mortality in men and women: an updated meta-analysis of 34 prospective studies. Arch Intern Med 2006; 166:2437-2445), we concluded: 'The association with a lower mortality was apparent up to 42 g/d (about 4 drinks per day), and the lowest mortality was seen at 6 g/d, or about half a drink daily (RR, 0.81 [95% CI, 0.80-0.83]).' The concluding statement of the authors of the present paper does not reflect such a finding."

Forum Summary

Using a very large dataset from subjects of European descent, the authors have carried out a Mendelian randomization analysis to estimate the effects of alcohol consumption on cardiovascular disease (CVD), using as the instrumental variable an uncommon allele affecting alcohol metabolism, the ADH1B rs1229984 variant. People with this variant are unusually sensitive to alcohol (developing flushing and other uncomfortable symptoms from alcohol) and it has been well demonstrated that they are less likely than people without this variant to consume alcohol, and are unlikely to be heavy drinkers. The authors conclude that since the 7% of their subjects with the uncommon allele had less cardiovascular disease, this indicates that alcohol consumption is unrelated to CVD.

Forum members agree that the analyses were done correctly, but strongly disagree with the premise of the study and the conclusions of the authors, and consider the genetic factor chosen as inappropriate to use as the instrumental variable in Mendelian randomization. The gene studied explains only a fraction of alcohol consumption in the population (not stated in the paper) and it may have effects on CVD beyond those explained by alcohol consumption. Thus, this ADH1b allele violates the assumptions required for a variable for Mendelian randomization and would be inappropriate for judging the effects of alcohol on CVD. Further, in the present study, the authors report little relation of their estimate of alcohol consumption with HDL-cholesterol, while essentially all observational studies, clinical trials, and experimental studies have shown that alcohol is an important determinant of HDL. This further suggests that the use of the ADH1B allele provides an inadequate estimate of alcohol consumption.

Even without the weakness of the allele chosen to reflect alcohol effects, conclusions derived from Mendelian randomization in general are heavily dependent on the assumption that the instrumental chosen is appropriate, of which you can rarely be confident. Forum reviewers consider this method to be a very blunt instrument and subject to considerable bias for variables that are weakly correlated with exposure and not true instruments.

Some reviewers were concerned by the conclusion of the authors that this Mendelian randomization paper shows that all persons should drink less; this does not necessarily mean for people to completely avoid drinking. The protection of moderate drinking against CVD that is generally observed shows a non-linear gradient: it is better manifested at a low alcohol consumption, while it is less strong as the consumption levels rise above optimum and finally disappears and is transformed into harm with heavy alcohol consumption. This would be in agreement with the conclusions of most prospective studies and meta-analyses that drinking alcohol at low doses offers the best protection against CVD, as there is a J-shaped curve.

Comments on this critique by the International Scientific Forum on Alcohol Research were provided by the following members:

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Harvey Finkel, MD, Hematology/Oncology, Boston University Medical Center, Boston, MA, USA

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Dominique Lanzmann-Petithory,MD, PhD, Nutrition/ Cardiology, Praticien Hospitalier Hôpital Emile Roux, Paris, France

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Andrew L. Waterhouse, PhD, Marvin Sands Professor, Department of Viticulture and Enology, University of California, Davis; Davis, CA, USA

Erik Skovenborg, MD, Scandinavian Medical Alcohol Board, Practitioner, Aarhus, Denmark

Fulvio Ursini, MD, Dept. of Biological Chemistry, University of Padova, Padova, Italy;

In addition, a comment on the paper was requested from Kenneth J. Rothman, DrPH, Boston University School of Public Health, who is a leading methodologist in epidemiology.

Note: A member of the Forum, R. Curtis Ellison, was one of the 155 co-authors on this paper and has not provided comments in this critique. The preparation of the critique was under the direction of Luc Djoussé, MD, DSc, of Harvard University.

Alcohol intake and risk of Parkinson's disease

The association of alcohol intake with risk of Parkinson's disease remains unclear. Researchers identified pertinent studies in EMBASE.

32 articles involving 677,550 subjects (9994 cases) were selected. The smoking-adjusted risk of Parkinson's disease for the highest versus lowest level of alcohol intake was relative risk (RR) 0.78 (95% confidence interval [CI], 0.67-0.92) overall, 0.86 (95% CI, 0.75-0.995) in prospective studies, and 0.74 (95% CI, 0.58-0.96) in matched case-control studies. A significant association was found with beer (0.59; 95% CI, 0.39-0.90) and less with wine and spirits, and for males (0.65; 95% CI, 0.47-0.90) after a sensitivity analysis but not for females. The risk of Parkinson's disease decreased by 5% (0.95; 95% CI, 0.89-1.02) for every 1 drink/day increment in alcohol intake in a linear (P-for nonlinearity=0.85) dose-response manner. Therefore, alcohol intake, especially beer, might be inversely associated with risk of Parkinson's disease, the authors conclude.

Source: Alcohol intake and risk of Parkinson's disease: a meta-analysis of observational studies Zhang DF; Jiang H; Xie JX. Movement Disorders. Vol 29, No 6, 2014, pp819-822.

A world-wide study of alcohol consumption and the risk of myocardial infarction

Leong DP, Smyth A. Teo KK, McKee M, Rangarajan S, Pais P, Liu L, Yusuf S, on behalf of the INTERHEART investigators. Patterns of Alcohol Consumption and Myocardial Infarction Risk: Observations from 52 Countries in the INTERHEART Case-Control Study. Circulation 2014 (pre-publication) DOI: 10.1161/CIRCULATIONAHA.113.007627.

Authors' Abstract

Background—While moderate alcohol use is associated with protection against myocardial infarction (MI), it is not known whether this effect is generalizable to populations worldwide. It s also uncertain whether differences in the pattern of alcohol use (and in particular heavy episodic consumption) between different regions negates any beneficial effect.

Methods and Results—We included 12,195 cases of first MI and 15,583 age- and sex-matched controls from 52 countries. Current alcohol use was associated with a reduced risk of MI (compared to non-users, adjusted odds ratio 0.87; 95% CI 0.80-0.94, p=0.001), however the strength of this assocation was not uniform across different regions (region-alcohol interaction p<0.001). Heavy episodic drinking (≥6 drinks) within the preceding 24 hours was associated with an increased risk of MI (odds ratio 1.4; 95% CI 1.1-1.9, p=0.01). This risk was particularly elevated in older individuals (for age >65 years, odds ratio 5.3; 95% CI 1.6-18, p=0.008).

Conclusions—In most participants, low levels of alcohol use are associated with a moderate reduction in the risk of MI, however the strength of this association may not be uniform across different countries. An episode of heavy drinking is associated with an increased risk of acute MI in the subsequent 24 hours, particularly in older individuals.

Forum Comments

The authors report on data collected in the INTERHEART Study, a large international collaborative project of 12,461 individuals with a first myocardial infarction (MI) and 14,637 age- and sex-matched controls from 52 countries in Asia, Europe, the Middle East, Africa, Australia, North and South America. Included were nations with very divergent lifestyles, religions, degrees of development, and drinking habits. The authors attempted to use multivariable analysis to provide a "world-wide" overview of the relation of alcohol consumption to the risk of MI, using a case-control design. They also attempted to determine how alcohol consumption shortly prior to (in the 24 hours before) the occurrence of a MI related to the short-term risk of MI (by comparing alcohol intake in that period with the reported intake 24-48 hours prior to the MI, using a case-crossover design.

The title says "patterns" of use, yet the investigators really have no data on drinking patterns of individuals (e.g., regular moderate drinking versus binge drinking), as they state ("Other limitations were that the quantity and type of alcohol consumed by participants were not recorded."). Unfortunately, they listed anyone who had one or more drinks within the past 12 months as an "alcohol user" in most comparisons ("Alcohol use was defined as the consumption of ≥ 1 alcoholic beverage within the previous 12 months."). Thus, key results are only a comparison of "any alcohol use" versus "none." Further, when they do present some results by frequency of drinking, they are able to report the highest alcohol frequency group only as drinking "> 4x/week," as they had no information on the amount of alcohol consumed. Thus, in addition to using a case-control analysis, which prevents determination of a causal relation, the combination of data from such divergent populations to judge the overall effect of alcohol on risk of MI raises serious problems.

Forum member Lanzmann-Petithory was concerned about the absence of data on amount or type of alcohol consumed. As stated by the authors: "Other limitations were that the quantity and type of alcohol consumed by participants were not recorded." She comments: "In my opinion, the absence of discrimination of type of alcohol, especially wine, could be an important confounding factor of the study and explain part of the differences between the countries."

One aspect of the analyses in this paper was to judge the effects of heavy drinking in the 24 hours before a MI. The authors compared reported drinking in the 24 hours before the MI with drinking in the 24-48 hour period before the MI, in a case-crossover approach, which is probably reasonable. They report an increased risk of MI for heavy drinking in the 24 hours preceding the MI; they state: "There was no excess risk of MI if any alcohol was consumed within the hazard period (odds ratio 1.0; 95% CI 0.91-1.2, p=0.7). In contrast to the neutral effect of any alcohol consumption during the hazard period, heavy drinking (≥6 drinks) during the hazard period was associated with a significant elevation in the risk

of MI (OR 1.4; 95% CI 1.1-1.9, p=0.01)." Thus, the data reported in this paper indicate a marked increase in the short-term risk of MI from heavy drinking, especially for older subjects and subjects from South Asia. It is unclear what to make of these strong findings, as some previous studies have shown an opposite effect. Even the authors have questions about their conclusions, as they state: "Thus there remains uncertainty over the risk of MI in the period immediately following alcohol intake."

Reviewer Lanzmann-Petithory points out that changes in platelet function in the 24-48 hours after binge drinking could play an important role in the occurrence of a subsequent MI. Such changes have been well described by Renaud, Ruf, and their associates (Renaud SC, Beswick AD, Fehily AM, Sharp DS, Elwood PC. Alcohol and platelet aggregation: the Caerphilly Prospective Heart Disease Study. Am J Clin Nutr 1992;55:1012-1017)(Ruf JC, Berger JL, Renaud SC. Platelet rebound effect of alcohol withdrawal and wine drinking in rats. Relation to tannins and lipid peroxidation. Arterioscleros Thromb Vasc Biol 1995;15:140-144). These effects are not discussed in the present paper.

Reviewer Zhang had some other problems with the paper: "Adjusting for HDL-cholesterol is problematic, as HDL is one of the mechanisms by which alcohol affects the risk of MI. Further, if the study was to assess risk factors for MI, one of the strongest risk factors, smoking, was measured rather crudely. For their estimates of effects of alcohol just prior to a MI, the use of alcohol consumption in the 25-48 hour period before the MI as the 'control period' is fine if we assume that the triggering effect of alcohol on MI is short, say less than 24 hours."

Forum member Djoussé commented: "Alcohol assessment is not well described, as reporting only the times per week it was consumed does not say anything about the quantity of alcohol consumed. A subject who reported alcohol intake of, say, 2 times per week could be consuming only 2 drinks per week or 12 or more. The paper does not seem to differentiate those habits. This will lead to misclassification of exposure, and no amount of adjustment can help." Djoussé also commented on the statistical approach used. "Despite a large number of cases (12,195), the number of categories considered with all variables included in their statistical models is very large. This might have introduced a sparse data bias (as described by Rothman & Mosquin, Ann Epi 2013;23:43-48). For example, 2 alcohol categories * 10 geographic regions * 3 age groups *18 other variables *2 (if all of them were dichotomized) gives approximately 2,160 cells to fill; this suggests cells with an average of 5 cases/cell, assuming equal distribution (we know that will not happen in real life)."

Difficulties in combining data from such diverse populations: Only 1% of the non-drinkers in this study came from W. Europe and 1% from North America, while more than 70% of the non-drinkers came from the Middle East or Asia. With such diversity (e.g., almost all the abstainers were from one area), it is not possible to adequately "adjust" for such regional differences in statistical analysis. The authors realized that they were attempting to answer questions about alcohol and MI using very divergent populations; hence, they warn against using their results to make overall conclusions about the association. They state: "The associations observed between alcohol use and MI may be accounted for by unmeasured confounders such as genetic differences between populations, variation in alcohol type or preparation, and heterogeneity of social context. The present analysis should therefore prompt further research to clarify the nature of the association between alcohol use and MI."

They admit many other limitations of their study as well, in one place stating: "In addition, as with any survey of alcohol use, there is likely to be a social desirability bias; respondents in countries where alcohol use is taboo may be more likely to underestimate their consumption compared with countries where drinking is socially acceptable. Recall bias, in which there is differential recollection of alcohol use depending on case or control status, may also have influenced our findings. Selection bias may have resulted from the approach used to identify controls since these participants represent a population with contact with a hospital." Unfortunately, the conclusions presented in the text and in the abstract do not mention such problems.

Contributions of this analysis to our understanding of the relation of alcohol consumption to MI: Stated Forum member Keil: "This paper is based on a case-control analysis, with all the well-known weaknesses of this study type. Such studies are useful for rare conditions, when they may be the only study type possible for gaining knowledge. In the field of

research into the etiology of cardiovascular diseases, however, we have an abundance of large, high quality, prospective studies. Our current knowledge on alcohol consumption and health has been derived from these large prospective cohort studies, which not always but quite often have provided detailed and even repeated assessments of alcohol exposure data. Why then do these authors fall back in quality and try to answer questions on alcohol consumption and MI using an inappropriate data set, when these questions have already been answered by analysing data sets with much higher quality and much less proneness to bias and confounding?"

Reviewer Finkel commented: "The serious liabilities in the methodology and reasoning of this paper make it impossible to use its results to improve our knowledge about the health benefits and adversities of drinking, particularly with regard to myocardial infarction."

Reviewer Waterhouse stated: "In the discussion of the results, the authors admit to major shortcomings in their data and clearly state that these shortcomings limit their ability to reach definitive conclusions, but these doubts disappear in the abstract and conclusions. Thus the public and press, unable to digest the body of the paper, are left with a very misleading impression, and will not be aware that the conclusions trumpeted in the abstract are truly compromised by weak data."

Forum Summary

The authors report on data collected in the INTERHEART Study, a large international collaborative project of individuals with a first myocardial infarction (MI) and age- and sex-matched controls from 52 countries in Asia, Europe, the Middle East, Africa, Australia, North and South America. Included were nations with very divergent lifestyles, religions, degrees of development, and drinking habits. The authors attempted to provide a "world-wide" overview of the relation of alcohol consumption to the risk of myocardial infarction (MI). However, they were forced to use a case-control design, a type of study with many opportunities for bias and one that prevents determination of a causal relation. Further, the lack of detailed data on the amount of alcohol consumed by individuals weakens their results.

While the authors state that their study shows that low levels of alcohol use are associated with a moderate reduction in the risk of MI, they point out differences in results in different countries. Forum members considered that these large differences severely limit their ability to use such a dataset to provide overall conclusions on alcohol and MI. For example, only 1% of the non-drinkers in this study came from W. Europe and 1% from North America, while more than 70% of the non-drinkers came from the Middle East or Asia. With such diversity (e.g., almost all the abstainers were from one area), it is not possible to adequately "adjust" for such regional differences in analysis.

The authors also studied how alcohol consumption shortly prior to (in the 24 hours before) the occurrence of a MI relate to the short-term risk of MI. While their results show an increased risk for heavy drinking immediately prior to an MI (a result that differs from that of some previous studies), they admit analytic problems, stating: "Thus there remains uncertainty over the risk of MI in the period immediately following alcohol intake."

Previous large prospective cohort studies (a type of epidemiologic study that decreases the risk of recall bias regarding alcohol intake and certain types of confounding) have clearly shown an inverse relation between moderate alcohol consumption and MI. Most of the previous studies have provided much more detailed data on alcohol exposure than did the present study. The authors realized many of these problems, and warn against using their results to make overall conclusions about the association between alcohol and MI from their paper. They state: "The associations observed between alcohol use and MI may be accounted for by unmeasured confounders such as genetic differences between populations, variation in alcohol type or preparation, and heterogeneity of social context. The present analysis should therefore prompt further research to clarify the nature of the association between alcohol use and MI." Unfortunately, the conclusions presented in the abstract and in the text do not mention such problems.

Some Forum members worried that many readers of the paper will be left with a very misleading impression of the relation of alcohol consumption to myocardial infarction, and will not be aware that the conclusions trumpeted in the abstract are compromised by weak data. Overall, members considered that the present paper adds little to our knowledge about the risks and benefits of alcohol in relation to cardiovascular disease.

Comments on this critique by the International Scientific Forum on Alcohol Research were provided by the following members:

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The effect of long-term wine drinking compared to abstinence in healthy men

Researchers investigated whether a lifestyle of regular long-term Red wine consumption is associated with changes in coronary plaque burden, calcium score, carotid intima/media thickness, endothelial function, and metabolic variables, compared with alcohol abstinence.

Healthy volunteers were evaluated by coronary computed tomography angiography (CTA) as well as carotid and brachial artery ultrasound. Nutritional status, psychological status, and metabolic variables were assessed.

The study included 101 drinkers [aged 58.9±7.3 years] from wine brotherhoods, and 104 abstainers, from Anglican, Evangelical and Catholic churches both in the city of São Paulo, Brazil.

No significant differences in demographics were noted. Lesion prevalence per patient assessed by coronary CTA and classified as absent (0), 1-25, 26-49, and ≥50% stenosis was similar between groups. When analyzed by individual arteries, i.e., left anterior descending, circumflex, and right coronary, prevalence was also not different.

Calcium scores were higher among drinkers than abstainers (144.4±362.2 vs 122.0±370.3; P<0.01). However, drinkers reported less history of diabetes and exercised more. Red wine drinkers consumed 2127.9±387.7 kcal/day while abstainers consumed 1836.0±305.0 (P<0.0001). HDL cholesterol was significantly higher among drinkers compared to abstainers (46.9±10.9 vs 39.5±9.0 mg/dL; P<0.001), while fasting plasma glucose was lower (97.6±18.2 vs 118.4±29.6 mg/dL; P<0.02). Liver enzymes were normal in both groups.

The authors state that long-term wine drinkers displayed a similar plaque burden but greater calcium score than abstainers, despite a more atherogenic diet, and that mechanisms for the increased calcium scores in the former remain speculative.

Source: Coronary artery plaque burden and calcium scores in healthy men adhering to long-term wine drinking or alcohol abstinence. da Luz PL, Coimbra S, Favarato D, Albuquerque C, Moichiduki RI, Rochitte CE, Hojaij E, Gonsalves CR, Laurindo FR. Braz J Med Biol Res. 2014 Jul 4;0:0.

Modest alcohol consumption decreases non-alcoholic fatty liver disease risk

A meta-analysis of epidemiological studies investigating the association between alcohol consumption and NAFLD risk was carried out by a team of Argentinean researchers from the University of Buenos Aires (Argentina).

Eight studies with 43,175 adults (30,791 non-drinkers and 12,384 modest drinkers (defined as < 40 grams alcohol per day) were included. The analysis showed that moderate consumption of alcoholic beverages was associated with a significant protective effect, i.e. a 31% lower risk of having NAFLD. Further, moderate alcohol consumption was associated with a 50% lower risk of developing an advanced disease stage (1).

Source: Modest alcohol consumption decreases the risk of non-alcoholic fatty liver disease: a meta-analysis of 43 175 individuals. Sookoian S, Castaño GO, Pirola CJ. Gut. 2014 Mar;63(3):530-2. doi: 10.1136/gutjnl-2013-305718. Epub 2013 Sep 11.

A large study of alcohol consumption and mortality

Ferrari P, Licaj I, Muller DC, et al (36 other authors). Lifetime alcohol use and overall and cause-specific mortality in the European Prospective Investigation into Cancer and nutrition (EPIC) study. Pre-publication; BMJ Open 2014;4: e005245. doi:10.1136/bmjopen-2014-005245.

Authors' Abstract

Objectives: To investigate the role of factors that modulate the association between alcohol and mortality, and to provide estimates of absolute risk of death.

Design: The European Prospective Investigation into Cancer and nutrition (EPIC).

Setting: 23 centres in 10 countries.

Participants: 380 395 men and women, free of cancer, diabetes, heart attack or stroke at enrolment, followed up for 12.6 years on average.

Main outcome measures: 20 453 fatal events, of which 2053 alcohol-related cancers (ARC, including cancers of upper aerodigestive tract, liver, colorectal and female breast), 4187 cardiovascular diseases/coronary heart disease (CVD/CHD), 856 violent deaths and injuries. Lifetime alcohol use was assessed at recruitment.

Results: HRs comparing extreme drinkers (≥30 g/day in women and ≥60 g/day in men) to moderate drinkers (0.1–4.9 g/day) were 1.27 (95% CI 1.13 to 1.43) in women and 1.53 (1.39 to 1.68) in men. Strong associations were observed for ARC mortality, in men particularly, and for violent deaths and injuries, in men only. No associations were observed for CVD/CHD mortality among drinkers, whereby HRs were higher in never compared to moderate drinkers. Overall mortality seemed to be more strongly related to beer than wine use, particularly in men. The 10-year risks of overall death for women aged 60 years, drinking more than 30 g/day was 5% and 7%, for never and current smokers, respectively. Corresponding figures in men consuming more than 60 g/day were 11% and 18%, in never and current smokers, respectively. In competing risks analyses, mortality due to CVD/CHD was more pronounced than ARC in men, while CVD/CHD and ARC mortality were of similar magnitude in women.

Conclusions: In this large European cohort, alcohol use was positively associated with overall mortality, ARC and violent death and injuries, but marginally to CVD/CHD. Absolute risks of death observed in EPIC suggest that alcohol is an important determinant of total mortality.

Forum Comments

There is no question that heavy alcohol consumption, especially when associated with smoking, increases the risk of a number of upper aero-digestive cancers that are commonly referred to as "alcohol-related cancers." In the present study, the authors have also included in this group a number of other cancers that may be related less directly to the effects of alcohol; these include colorectal cancer and female breast cancer which, because they are so much more common, make up the large majority of cancers "related to alcohol." All Forum members consider the EPIC study to be an important source of data on cancer. However, there were some concerns about certain aspects of the analysis, as described below.

Specific comments on the study: It was noted by Forum members that all estimates of alcohol were only from reported alcohol consumption at baseline, and no alcohol data were collected during a follow-up period that averaged 12.6 years. There were no data presented on the pattern of drinking (regular moderate versus binge drinking). Further, Forum members noted that there was no discussion of the effects of under-reporting of alcohol, which has been shown to markedly affect health effects of alcohol intake in epidemiologic studies.

In their Abstract, the authors focus on the "extreme" drinkers, those women who consume (≥30 g/day) or men who consume ≥60 g/day. They do not point out that only 2.4% of the women in this study consumed at this level, and little attention is given to the fact that almost all of the women were non-drinkers or light-moderate drinkers. Specifically, 10.1% of the women were lifetime never drinkers, 45.3% consumed 0.1-4.9 g/d, and 31.1% reported 5-14.9 g/d. A total of 11.0% reported 15-29.9 g/d and 2.4% reported ≥30 g/d. From the data presented, there is a clear U-shaped curve: among women; the highest risks for total mortality were in the abstainers (a 26% increase over the referent group of light drinkers) and the very small number of women in the highest drinking category (a 27% increase). Similar patterns were seen for all cancers (even for alcohol-related cancers) and for violent deaths; for CVD deaths, in comparison with non-drinkers, the estimated risks were lower for all alcohol categories.

Men consumed more alcohol, as only 1.6% were never drinkers, 14.0% reported 0.1-4.9 g/d, 28.3% reported 5-14.9 g/d, 27.5% reported 15-29.9 g/d, 20.4% reported 30-59.9 g/d, and 8.2% reported ≥ 60 g/d. Hence, more than one-quarter of the men reported that they consumed 30 or more grams/d of alcohol. For men, there was generally a U-shaped curve, with lower death rates for light to moderate drinkers. However, the heaviest drinkers (≥ 60 g/d)

had the highest risk of death for overall mortality and for deaths from cancers and other causes of death.

For analyses separating smokers and non-smokers, among never-smokers, essentially the highest risk was among abstainers, and consumption up to 30 g/d had no adverse effects for never-smokers. At every level of drinking, smokers had increased risk of death in comparison with non-smokers.

Reviewer Lanzmann-Petithory was also concerned that "The focus of this paper is on the extremes of alcohol consumption and there are incomplete comparisons between wine drinkers and beer drinkers. While the authors admit in their discussion that there are nutritional and cultural confounding factors, saying 'Although we believe that this finding is relevant, we call for cautious interpretations of these results, as the lifestyle profile of wine and beer drinkers is profoundly different,' they translate that in the results of the abstract to 'Overall mortality seemed to be more strongly related to beer than wine use, particularly in men.'"

Reviewer Thelle noted: "It is peculiar that never-drinking women (and men – but there are few events) have increased risk of violent deaths, but that only underlines the need of using the low consumers as a reference group. The heterogeneity across geographical areas with Northern Europe showing stronger associations with total and overall mortality suggests drinking pattern more than average amount as a driving force. It is a pity that large cohorts from the north were excluded due to lack of information in some comparisons. Still, it is my view that this report is as good as observational studies can be regarding alcohol and mortality."

Forum member Skovenborg praised the work of the EPIC study, but thought that the analytical strategy for the present study raise some questions: "Categories of alcohol use: Never drinkers are discarded as the reference group by the authors, which might be reasonable concerning men (only 1.5% of men reported having never consumed alcohol) but hardly in women, where never drinkers made up 10% of the total cohort. Information on lifetime alcohol use was available on 76% of the cohort, allowing separate consideration of former drinkers and lifetime abstainers, but this is not discussed.

"The authors quote risk of misclassification of alcohol quantity and lack of accuracy in reporting prevalent morbid conditions at baseline in the group of never drinkers as argument for their decision to discard never drinkers as the reference category. The authors do not present evidence to support their assumptions about EPIC never drinkers, neither do they look for possible explanations for the association of never drinking and increased risk of death due to violence and injury – a finding that might also be purely coincidental.

"Moderate drinkers (0.1 – 4.9 g/day): this is a strange designation for an alcohol intake that in most other studies would be named as light or very modest. Categorizing an alcohol intake of 0.1 – 4.9 g/day as moderate is a suitable means to create confusion. Apart from that a steady, light intake of 4.9 g alcohol per day might well have a biological effect obscuring the difference between moderate vs no consumption of alcohol and risk of disease and death. Most studies would define 5 – 14.9 g/day as light to moderate (this group is not given a name in this study). Further, most studies would consider the consumption of 15 – 29.9 g/day as moderate for men and perhaps heavy for women; the authors give no name for this category."

Reviewer Skovenborg was also concerned about misclassification due to underreporting: "The authors do not discuss the risk of misclassification due to underreporting. Underreporting of alcohol intake is a source of bias with respect to adverse effects of light–moderate drinking. In a recent study by Klatsky et al (Cancer Causes Control 2014;25:693-699) increased risk of cancer in association with alcohol consumption was concentrated in the stratum of study participants who had other recorded data indicating alcohol misuse, and who were thus suspected of underreporting their intake. Klatsky et al concluded that the apparent increased risk of cancer among light-moderate drinkers might be substantially due to underreporting of intake. Underreporting would also explain the finding of this paper that the rate advancement period on the risk of death was larger when the reference category was set to 0.1-15 g/day than when using a threshold of 5 g/day." Reviewer De Gaetano agreed that "The underreporting issue is of utmost importance."

Why was there not a greater effect of light-to-moderate drinking on cardiovascular diseases in this study: The effects of alcohol on cardiovascular disease in these analyses also raised questions. Several

reviewers thought that this may relate to the lack of data on the pattern of drinking. Further, Dr. Roger Corder, Professor of Experimental Therapeutics at the William Harvey Research Institute in London, was asked to comment on the rather modest reduction in risk of coronary heart disease reported in this report. "I'm not really surprised that alcohol, and wine in particular, appears in this study to confer less protection against cardiovascular disease than earlier studies in France from the 1970s and 1980s. Many 'modern' wines are higher in alcohol than in the past, when it was unusual to see a wine with more than 12.5% alcohol by volume. With a wine 11% alcohol, one-half of a bottle would contain about 30 g alcohol; for modern wines it is frequently over 40 g alcohol in the same volume. Our studies of polyphenols in wine show lower levels than seen in the past. The present study doesn't differentiate red or white drinkers, and the percent of white wine drinkers in Germany and Denmark is likely high. So when you take into account that modern red wines may be low in polyphenols, this study shouldn't be expected to show the benefit from wine drinking that earlier French studies did. Ultimately it is just a study of the risks associated with alcohol consumption."

Forum member Finkel suggested that "The higher alcohol level in many modern wines may relate partly to global warming, partly to viticultural practices enhancing ripening, perhaps partly to a misguided impression of vintners that higher alcohols lead to higher scores and more sales. We really need detailed systematic data, which most published studies lack."

Many Forum members noted that the emphasis of this paper was almost exclusively on the dangers of any alcohol, without indicating that the data indicate that the dangers were primarily with "heavy drinking." Lanzmann-Petithory considered the last sentence of the authors' abstract to be misleading. "With their data, they could as well reasonably have concluded that 'Heavy drinking is an important determinant of total mortality,' and even more accurately, that 'Never drinking is an important determinant of total mortality.' The emphasis of the authors appears to be more political than scientific."

Reviewer Waterhouse also had some major concerns about the overall message of the paper. "This paper goes to great lengths to raise concern about dangers from alcohol consumption. One of their conclusions is that alcohol consumption is "positively associated with overall mortality." Their discussion focuses on the increased mortality risk of the < 3% of women who consume large amounts of alcohol. From their data presented, it appears that abstinence is more dangerous than heavy drinking for women, with an increased mortality risk of 34% compared to 27% for heavy alcohol consumption among non-smokers. But, since there are four times as many teetotalers as heavy drinkers, the cost to public health from abstinence is 4 times as great as heavy drinking. Also, since the lowest risk of mortality from any perspective is among light to moderate alcohol consumers, their overall conclusion that alcohol consumption increases mortality is incorrect. It is also clear that their classification of alcohol-related cancers is highly questionable because in women never-drinkers have a greatly increased risk! It appears to me that the authors have deliberately overlooked the hazards of abstinence in order to advance an anti-alcohol agenda."

Forum Summary

The large European Prospective Investigation into Cancer and Nutrition Study (EPIC) has released a new analysis of the relation of alcohol consumption to mortality. The study concluded that alcohol use was positively associated with overall mortality, alcohol-related cancers, and violent death and injuries, but marginally to cardiovascular disease, and that absolute risks of death observed in EPIC suggest that alcohol is an important determinant of total mortality.

There is no question that heavy alcohol consumption, especially when associated with smoking, increases the risk of a number of upper aero-digestive cancers that are commonly referred to as "alcohol-related cancers." In the present study, the authors have also included in this group a number of other cancers that may be related less directly to the effects of alcohol; these include colorectal cancer and female breast cancer which, because they are so much more common, make up the large majority of cancers "related to alcohol." Forum members consider the EPIC study to be an important source of data on cancer, but had a number of questions about the analysis and especially about the conclusions of the authors.

Major weaknesses of the study are that an assessment of alcohol intake was obtained only at a baseline visit, with no further assessments during a follow-up period averaging 12 years, and especially, no information was available on the pattern of drinking of subjects (e.g., regular moderate versus binge drinking). Further, Forum members noted that there was no discussion of the effects of under-reporting of alcohol, which has been shown to markedly affect health effects of alcohol intake in epidemiologic studies. In fact, recent large studies show that most of the cases of cancer that appear to relate to "light-to-moderate drinking" actually relate to underreporting of consumption by subjects who are found, from other collected medical data, to be heavy users or abusers of alcohol.

The authors focus on "extreme drinkers," which consist of women who consume (≥30 g/day) or men who consume ≥60 g/day. They do not point out that only 2.4% of the women in this study consumed at this level, and little attention is given to the fact that almost all of the women were non-drinkers or light-moderate drinkers. From the data presented in the paper, there is a clear U-shaped curve among women: the highest risks for total mortality were in the abstainers (a 26% increase over the referent group of light drinkers) and the very small number of women in the highest drinking category (a 27% increase).

For men, 8.2% were in the highest drinking category, reporting an average consumption of ≥ 60 g/d (5 – 6 typical drinks). For men, there was generally a U-shaped curve, with lower death rates for light to moderate drinkers. However, the heaviest drinkers had the highest risk of death for overall mortality and for deaths from cancers and other causes of death. For both men and women, at every level of drinking, smokers had an increased risk of death in comparison with non-smokers.

Some reviewers were also concerned about the unusual categorization of alcohol intake used in the study. Referring to subjects reporting 0.1 – 4.9 g/day as "moderate drinkers" is a strange designation for an alcohol intake that in most other studies would be named as light or very modest, and may lead to confusion in interpreting results. (Most studies would define 5 – 14.9 g/day as light to moderate drinkers, and this group is not given a name in this study).

Overall, this study tends to show a U-shaped relation between alcohol consumption and mortality. The data presented focus primarily on the highest categories of drinking, levels that are well known to relate to many diseases and mortality. For truly light-to-moderate consumption, however, there is overwhelming epidemiologic data that such drinking relates to lower mortality risks, and the present study does not contradict such an association.

Comments in this critique by the International Scientific Forum on Alcohol Research were provided by the following members:

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In addition to Forum members, comments on this paper were sought from Dr. Roger Corder, Professor of Experimental Therapeutics at the William Harvey Research Institute in London.

Alcohol consumption, specific alcoholic beverages, and abdominal aortic aneurysm

A study published in the Journal Circulation explored the associations between total alcohol consumption, and specific alcoholic beverages, with hazard of abdominal aortic aneurysm (AAA). The researchers found evidence that low-to-moderate drinking could reduce the risk of AAA – a "ballooning" of the main blood vessel which pumps blood from the heart and around the body.

44,715 men from the Cohort of Swedish Men and 35,569 women from the Swedish Mammography Cohort, aged 46 to 84 years at baseline 1998, were included in the study population. Alcohol consumption was assessed through a food frequency questionnaire, and AAA, identified by means of linkage to the Swedish Inpatient Register and the Swedish Vascular Registry (Swedvasc).

Over the 14-year follow-up until December 2011 (1,019,954 person-years), AAA occurred in 1020 men and 194 women. Compared with a consumption of 1 glass of alcohol/week (12 grams of ethanol), the HR of AAA among men who consumed 10 glasses/week was 0.80 (95% CI, 0.68-0.94). Corresponding HR among women who consumed 5 glasses/week was 0.57 (95% CI, 0.40-0.82). Among participants free from cardiovascular disease, total alcohol consumption did not seem to be associated with hazard of the disease. The most commonly consumed alcoholic beverages - beer among men and wine among women - were inversely associated, whereas no association was observed for liquor.

The authors state that moderate alcohol consumption, specifically wine and beer, was associated with a lower hazard of abdominal aortic aneurysm. The associations between higher doses of alcohol and risk of the disease remain unknown.

Source: Alcohol consumption, specific alcoholic beverages, and abdominal aortic aneurysm. Stackelberg O; Bjorck M; Larsson SC; Orsini N; Wolk A. Circulation, published early online 25 June 2014.

Long-term alcohol intake and risk of endometrial cancer in the Nurses' Health Study

The association between alcohol intake and endometrial cancer risk was examined using prospective data from the Nurses' Health Study, which included 68,067 female participants aged 34-59 years in 1980. Alcohol intake was measured several times with validated dietary questionnaires and cumulative average alcohol intake was calculated to represent long-term intakes of individual subjects.

Using Cox proportional hazards models, incidence rate ratios (RRs) and 95% confidence intervals (CIs) for endometrial cancer risk were estimated after controlling for several risk factors. A total of 794 invasive endometrial adenocarcinoma were identified from 1980 to 2010. The researchers found an inverse association among alcohol drinkers (multivariable RR=0.81; 95% CI: 0.68-0.96) compared with non-drinkers.

Women with light alcohol intake of <5g per day had a 22% lower risk of endometrial cancer (multivariable RR=0.78; 95% CI: 0.66-0.94). Higher intake of alcohol, however, did not provide additional benefits against endometrial cancer: multivariable RRs for 5-14.9g, 15-29.9g, or >=30g versus 0g per day were 0.88, 0.83, and 0.78 (95% CI: 0.49-1.25), respectively. The lower risk among drinkers (<half drink per day) appeared to be stronger for obese women, but no significant interaction by body mass index was found.

This study provides prospective evidence for an inverse association between light alcohol intake (<half drink per day) in the long term and endometrial cancer risk, but above that level no additional benefit was found.

Source: Long-term alcohol intake and risk of endometrial cancer in the Nurses' Health Study, 1980-2010. Je Y, DeVivo I, Giovannucci E. Br J Cancer. 2014 Jul 1;111(1):186-94.

Impact of chronic low to moderate alcohol consumption on blood lipid and heart energy profile in acetaldehyde dehydrogenase 2-deficient mice

Acetaldehyde dehydrogenase 2 (ALDH2) is the key enzyme of ethanol metabolism. A study investigated what role ALDH2 has in the induced heart protective effects of chronic low to moderate alcohol in mice.

Twenty-one male wild-type (WT) or ALDH2-knockout (KO) mice were used in this study. In each genotype, 14 animals received alcohol (2.5%, 5% and 10% in week 1-3, respectively, and 18% in week 4-7), and 7 received water for 7 weeks. After the treatments, survival rate and general characteristics of the animals were evaluated. Serum ethanol and acetaldehyde levels and blood lipids were measured. Metabolomics was used to characterise the heart and serum metabolism profiles.

Chronic alcohol intake decreased the survival rate of KO mice by 50%, and significantly decreased their body weight, but did not affect those of WT mice. Chronic alcohol intake significantly increased the serum ethanol levels in both WT and KO mice, but KO mice had significantly higher serum acetaldehyde levels than WT mice. Chronic alcohol intake significantly increased the serum HDL cholesterol levels in WT mice, and did not change the serum HDL cholesterol levels in KO mice. After chronic alcohol intake, WT and KO mice showed differential heart and serum metabolism profiles, including the 3 main energy substrate types (lipids, glucose and amino acids) and three carboxylic acid cycles.

Low to moderate alcohol consumption increases HDL cholesterol levels and improves heart energy metabolism profile in WT mice but not in ALDH2-KO mice. Thus, preserved ALDH2 function is essential for the protective effect of low to moderate alcohol on the cardiovascular system.

Source: Impact of chronic low to moderate alcohol consumption on blood lipid and heart energy profile in acetaldehyde dehydrogenase 2-deficient mice. Fan F, Cao Q, Wang C, Ma X, Shen C, Liu XW, Bu LP, Zou YZ, Hu K, Sun AJ, Ge JB. Circulation, 2014 Jun 13.

Pre- and postoperative alcohol consumption in breast cancer patients: impact on early events

A study investigated the association between pre- and postoperative alcohol consumption and risk for early breast cancer events, since the association between alcohol consumption and prognosis in breast cancer patients is unclear.

Alcohol consumption was recorded for 934 primary breast cancer patients who underwent breast cancer surgery in Lund, Sweden, between 2002 and 2011 and were followed until December 2012. Clinical data were obtained from medical records and population registries. Pre- and postoperative alcohol consumption was analysed in relation to risk for early events.

Median follow-up time was 3.03 years and 100 breast cancer events, 65 distant metastases, and 76 deaths occurred. Compared to no consumption, any preoperative alcohol consumption was weakly associated with lower risk for early events, adjusted HR 0.69 (0.45-1.04), distant metastases, 0.60 (0.36-1.00) and death, 0.62 (0.38-1.01). In the 572 patients without axillary lymph node involvement, any alcohol consumption was not associated with risk for early events. However, in the 360 patients with axillary lymph node involvement, preoperative alcohol consumption was associated with lower risk for early events (adjusted HR 0.43 (0.24-0.77).

Pre- and postoperative alcohol consumption was weakly associated with lower risk for early breast cancer events. Therefore data does not support recommending that all breast cancer patients abstain from low to moderate alcohol consumption.

Source: Pre- and postoperative alcohol consumption in breast cancer patients: impact on early events. Simonsson M, Markkula A, Bendahl PO, Rose C, Ingvar C, Jernström H. Springerplus. 2014 May 22;3:261.

Association between alcohol consumption patterns and metabolic syndrome

The associations between self-reported alcohol consumption patterns and metabolic syndrome were investigated in a group of 7432 adults aged ≥20 years participating in the 1999-2006 National Health and Nutrition Examination Survey.

Above moderate alcohol consumption was negatively associated with waist circumference among those in the 20-29, 40-49, and 70-79 age groups (β=-6.21, -8.34, and -6.60, respectively) and moderate alcohol consumption was negatively associated with waist circumference among those in the 30-39, 40-49, and 70-79 age groups (β =-4.60, -5.69, and -2.88, respectively).

Above moderate alcohol consumption was negatively associated with triglycerides among those in the 70-79 and 80+ age groups (β =-23.62 and -34.18, respectively) and positively associated with HDL-C levels in all groups (β range 8.96-18.25).

Moderate alcohol consumption was positively associated with HDL-C in the age groups spanning 20-69 years (β range 3.05-5.34) and those over 80 (β =5.26). Above moderate alcohol consumption and moderate alcohol consumption were negatively associated with fasting glucose levels in the 20-29 and 70-79 age groups (β =-3.38 and -15.61, respectively). Moderate alcohol consumption was negatively associated with fasting glucose levels among those 70-79 and those over 80 years of age (β=-7.06 and -5.00, respectively).

Moderate alcohol consumption and above moderate alcohol consumption may favourably impact metabolic health, the researchers conclude.

Source: Association between alcohol consumption patterns and metabolic syndrome. Churilla JR, Johnson TM, Curls R, Richardson MR, Boyer WR, Devore SR, Alnojeidi AH. Diabetes Metab Syndr. 2014 Apr-Jun;8(2):119-23.

Alcohol: impact on sports performance and recovery in male athletes

A paper in the journal Sports Medicine considers the impact of alcohol on sports performance and recovery. Author MJ Barnes states that alcohol consumption, often in large volume, is deeply embedded in many aspects of Western society. Athletes are not exempt from the influence alcohol has on society; they often consume greater volumes of alcohol through bingeing behaviour compared with the general population, yet it is often expected and recommended that athletes abstain from alcohol to avoid the negative impact this drug may have on recovery and sporting performance.

According to Barnes, the impact alcohol has on recovery and sports performance is complicated and depends on many factors, including the timing of alcohol consumption post-exercise, recovery time required before recommencing training/competition, injury status and dose of alcohol being consumed.

In general, acute alcohol consumption, at the levels often consumed by athletes, may negatively alter normal immunoendocrine function, blood flow and protein synthesis so that recovery from skeletal muscle injury may be impaired. Other factors related to recovery, such as rehydration and glycogen resynthesis, may be affected to a lesser extent.

Barnes recommends that those responsible for the wellbeing of athletes, including the athlete themselves, should carefully monitor habitual alcohol consumption so that the generic negative health and social outcomes associated with heavy alcohol use are avoided. Additionally, if athletes are to consume alcohol after sport/exercise, a dose of approximately 0.5 g/kg body weight is unlikely to impact most aspects of recovery and may therefore be recommended if alcohol is to be consumed during this period.

Source: Alcohol: Impact on sports performance and recovery in male athletes. Barnes MJ. Sports Med 2014 Jul;44(7):909-19. doi: 10.1007/s40279-014-0192-8.

The Alcohol Education trust wins support from The Childhood Trust to reach 25,000 13-year-olds across 100 schools in London

The Alcohol Education Trust Talkaboutalcohol programme will provide its 100 page teacher workbook, interactive website, worksheets, information leaflets, newsletters, teacher training and parent sessions to 100 schools across Greater London where needs are greatest for alcohol education. London has a specific cultural and ethnic profile (42% of pupils have English as a second language) and Special Educational Needs and Disability is estimated to effect one in five children across their school life, meaning 60% of pupils in London require a programme that is visual rich and easily adaptable.

The BIG GIVE project will ensure that 25,000 13-14 year olds in London schools learn about alcohol and its effects, the law, units and guidelines, resilience strategies and staying safe in an engaging and interactive way.

A dedicated schools coordinator will ensure teachers in 100 schools receive training on alcohol education with email and phone support for planning and implementation.

Parents of pupils across 100 schools will be invited to talkaboutalcohol sessions offering alcohol advice and help.

A two year evaluation of talkaboutalcohol among 4000 pupils across England (including London) showed that delivering 6 AET lessons over two years delayed the onset of drinking significantly among 13 and 14 year olds (just 8% took up drinking between Years 8 and 9 versus 20% in schools where other alcohol resources were used). Delaying regular drinking improves attainment and reduces the risk of smoking and other drug use as well as the likelihood of binge drinking and alcohol related problems later.

To pledge to support the AET Big Give Christmas Challenge, visit

secure.thebiggive.org.uk/projects/view/21643?search=f1616297-2af6-4c1a-acd6-9d85c2d2d73b

The Responsibility Deal Alcohol Network make new pledges which tackle alcohol misuse and promote responsible drinking

The new pledges have been developed by the UK drinks industry to reduce alcohol consumption, increase education and help to tackle the £21 billion a year cost of drink-related harm.

The new pledges include producers ending the production of super-strength products in large cans; retailers committing to the responsible display and promotion of alcohol in shops and supermarkets; and pubs and bars making sure they stock house wines below 12.5% ABV and promote lower-alcohol products to customers.

The drinks industry will also expand successful partnership schemes to the Local Alcohol Action Areas, which were launched by the government in February.

In addition, initial funding of £250,000 will be provided by industry for evidence based alcohol education programmes in schools and grants will be available to give 10,000 people a qualification that will help enforce responsible serving by 2016.

Health Secretary Jeremy Hunt said: Our Responsibility Deal has made real progress, as the industry is taking one billion units out of the market and has agreed to provide labelling which includes health warnings and unit information. The new pledges will help people to drink responsibly and make healthier choices.

responsibilitydeal.dh.gov.uk/

AIHW survey in Australia indicate that smoking, drinking and some drug abuse rates are falling

Key findings from the Australian Institute of Health and Welfare's 2013 National Drug Strategy Household Survey show that young people are starting their first drink at a later age. The average age for a first whole drink rose from 14.4 to 15.7 years of age between 1998 and 2013. Also, the proportion abstaining rose from 64% to 72% between 2010 and 2013.

- Daily drinking declined significantly between 2010 and 2013 (from 7.2% to 6.5%) and was at the lowest level seen since 1991. Rates fell for both males and females.
- Between 2010 and 2013, there was a significant increase in the proportion of people who had never consumed a full serve of alcohol (from 12.1% to 13.8%).
- Fewer people aged 12–17 are drinking alcohol and the proportion abstaining from alcohol increased significantly between 2010 and 2013 (from 64% to 72%).
- Compared to 2010, fewer people in Australia drank alcohol in quantities that exceeded the lifetime risk and single occasion risk guidelines in 2013; In 2013, 18.2% of people aged 14 or older exceeded the lifetime risk guidelines. This is a significant decline from 2010 when 20% drank at these levels.
- The proportion of those who exceeded the single occasion risk guidelines at least once a month also declined significantly from 29% in 2010 to 26% in 2013; males were twice as likely as females to exceed the lifetime risk guidelines (26% and 10%, respectively) and men in their 40s and late 20s were most likely to drink at risky levels (32%), while for women it was young adults aged 18–24 (14.6%).
- People aged 18–39 were less likely to drink alcohol in risky quantities in 2013 compared to 2001, but between 2001 and 2013, there was little change in the risky consumption of alcohol among people aged 40 or older with a similar proportion exceeding both the lifetime risk and single occasion risk guidelines.
- Although 1 in 6 (15.6%) people in Australia had consumed 11 or more standard drinks on a single drinking occasion in the past 12 months, this was significantly lower than in 2010 (16.8%).
- The percentage of people aged 14 and over who reported being a victim of an alcohol-related incident in 2013 fell from 29% to 26%

The report also showed a fall in the use of ecstasy (from 3% to 2.5%), heroin (from 0.2% to 0.1%) and GHB (from 0.1% less than 0.1%). Misuse of pharmaceuticals, however, rose from 4.2% in 2010 to 4.7% in 2013 and the use of meth/amphetamine remained at a similar level to 2010.

www.aihw.gov.au/alcohol-and-other-drugs/ndshs/2013/alcohol/

Alcohol use in middle-aged adults and marital partner influences on drinking

A longitudinal study examined the drinking characteristics (e.g., drinks per day, heavy episodic drinking [HED]) in a community sample of middle-aged adults and assessed the stability of these characteristics across a 10-year interval at aggregate (or group) and individual levels. Secondly, an actor-partner interdependence model (APIM) was used to test husbands' and wives' mutual influences on each other's alcohol use.

Prospective data were collected from the middle-aged parents of a cohort study that originally targeted adolescents at baseline, 5 years later, and an additional 5 years later. Data from 597 men and 847 women were used to derive prevalence data on alcohol use, and 489 intact marital dyads were used to test spouses' interdependence on alcohol use and HED in the APIMs.

The majority of men and women reported alcohol use at each measurement occasion, and the average number of drinks per day was highly similar across time, as was the percentage reporting HED. There was substantial stability at the individual level in the amount of alcohol consumed and heavy episodic drinking between waves of measurement.

Marital partners had significant but modest effects on each other's alcohol use. Wives had a somewhat greater influence on their husbands' drinking than vice versa. The majority of middle-aged adults consumed alcohol at a low to moderate level. There was heterogeneity in alcohol use patterns, with a significant minority reported at-risk levels of alcohol use and Heavy Episodic Drinking.

Source: A prospective study of alcohol use among middle-aged adults and marital partner influences on drinking. Windle M, Windle RC. J Stud Alcohol Drugs. 2014 Jul;75(4):546-56.

Who will binge-drink at age 16? European teen study pinpoints predictors

Research by an international collaboration of scientists leading the world's largest longitudinal adolescent brain imaging study to date suggests that it is possible to predict teenage binge-drinking. The data used in the study was collected from the European IMAGEN cohort, led by King's College London, which aims to learn more about biological and environmental factors that might have an influence on the mental health of teenagers.

IMAGEN recruited over 2,000 teenagers from England, Ireland, France and Germany at age 14 years. Follow-up work at age 16, funded by the Medical Research Council (MRC), has shown that it is possible to predict future alcohol misuse two years later, and the scientists wish to continue this work by re-assessing the participants at a later age. The factors assessed in this study will also be applied to predict other types of risk-taking behaviours, such as drug-taking and smoking.

The study is the first comprehensive analysis of potential influences involved in teenage binge drinking. The researchers used a model which incorporated factors known or believed to be relevant for the development of adolescent substance abuse. These include personality, history/life events, brain physiology and structure, cognitive ability, genetics and demographics – in total 40 different variables were investigated.

The study aimed to predict those who went on to drink heavily at age 16 using only data collected at age 14. They applied a broad range of measures, developing a unique analytic method to predict which individuals would become binge-drinkers. The reliability of the results were confirmed by showing the same accuracy when tested on a new, separate group of teenagers. The result was a list of predictors that ranged from brain and genetics to personality and personal history factors. The final model was very broad, suggesting that a wide mixture of reasons underlie teenage drinking.

Variables such as personality, sensation-seeking traits, lack of conscientiousness, and a family history of drug use are some of the strongest predictors. Having even a single drink at age 14, was also a strong predictor. That type of risk-taking behaviour was a critical predictor. Teens who had experienced several stressful life events were also among those at greater risk for binge-drinking.

Larger brains were also predictive. Adolescents undergo significant brain changes, so in addition to the formation of personalities and social networks, it's normal for their brains to reduce to a more efficient size. Teenagers with more immature brains, those that are still larger, are more likely to drink.

By gaining a better understanding the probable causal factors for binge-drinking, Garavan, Whelan and colleagues believe that targeted interventions for those most at risk could be applied.

Source: Whelan, R. et al. 'Neuropsychosocial profiles of current and future adolescent alcohol misusers' Nature. DOI: 10.1038/nature13402.

Text messages can help reduce young adults' binge drinking

According to a study originally presented at the American Public Health Association 141st annual meeting and exposition, Boston, MA, receiving text messages about binge drinking after visiting the emergency room can help young adults reduce their hazardous alcohol consumption by more than 50%.

The study included 765 young adults seen in the emergency room, who had a history of hazardous drinking. The study participants were divided into thirds. A third received text messages for 12 weeks prompting them to respond to questions about their drinking. They received texts in return that offered feedback. Another third received text messages asking about their drinking, but received no feedback. The remaining third received no text messages.

Participants who received both text message questions about their drinking and feedback said they decreased their binge drinking by 51%, and the number of drinks per day by 31%. Those who received only text messages or no text messages increased the number of days they engaged in binge drinking. Binge drinking was defined as five or more drinks in one sitting for men and four or more drinks for women.

Source: A Text Message Alcohol Intervention for Young Adult Emergency Department Patients: A Randomized Clinical Trial. Brian Suffoletto, Jeffrey Kristan, Clifton Callaway, Kevin H. Kim, Tammy Chung, Peter M. Monti, Duncan B. Clark. Annals of Emergency Medicine, published Online: July 09, 2014.

Exploring risky drinking and knowledge of safe drinking guidelines in older adults

Authors of an Australian study investigating the drinking patterns and knowledge of adults aged 60 or above, state that risky drinking criteria in this age group lack consistency across the literature. The variable definitions of risk have contributed in part, to widely differing prevalence estimates for risky drinking, ranging from 1% to 15%.

The current study identified the prevalence of different types of risky drinking by applying several different criteria, and investigated whether older adults have knowledge of the National Health and Medical Research Council recommended guidelines for safe drinking. The study population consisted of 282 community dwelling past-year drinkers aged ≥60 years. Participants completed a postal survey on alcohol consumption using the AUDIT-C.

6.6% to 31.7% of women and 21.6% to 44.8% of men were identified as risky drinkers. Men were more likely than women to have inaccurate knowledge of the NHMRC guidelines, and nearly 59.2% of men who exceeded 14 drinks per week reported either not knowing the recommended limits or reported limits that exceeded the guidelines.

The authors confirm that a substantial number of older men drank at risky levels and overestimated safe drinking limits. They call for greater education on the vulnerability to alcohol-related harm together with greater screening practice by health professionals and service providers.

Source: Exploring risky drinking and knowledge of safe drinking guidelines in older adults. Gilson KM, Bryant C, Judd F. Subst Use Misuse. 2014 May 14.

A report into the application and impact of Challenge 25

A new report into the effectiveness of Challenge 25, a UK scheme to combat underage sales of alcohol, has found retailers are making considerable progress in reducing underage sales. However, the report also identified worrying new trends outside of retailers' control, including an increase in 'proxy purchasing'.

Challenge 25 was originally introduced in 2006 and requires anyone over the age of 18, who looks under 25, to produce an acceptable form of ID when purchasing alcohol. The voluntary scheme was brought in to tackle the high rate of underage purchases and has now been adopted by all major UK supermarkets.

"Rising to the Challenge", a report by the Retail of Alcohol Standards Group (RASG) which administers the scheme, found that around 850,000 shop workers are given training in the application of Challenge 25 each year and approximately 11 million people have been challenged to provide ID as a result of Challenge 25, including 75% of 18-24 year olds. 86% of 18-24 year olds are aware of Challenge 25; and 8 out of 10 people are supportive of retailers that adopt the scheme.

The report also highlights some of the continuing challenges retailers face in relation to underage sales and makes recommendations to address them. These include the lack of universality for the scheme, with the lower threshold of Challenge 21 in operation in the on trade or in independent stores; frontline staff facing verbal and physical abuse from customers refused an alcohol sale, and the growing problem of proxy purchasing, where parents or other adults purchase alcohol on behalf of children.

www.wsta.co.uk/images/Media/Challenge-25-Report-2014.pdf

Alcohol trends in the UK: a one-stop data source for all official statistics

A reference document has been compiled by the WSTA, Portman Group, SWA, BBPA and the NACM to bring together key Government statistics and official data for alcohol-related trends in the UK.

A new compendium of all the major government and official data sets on alcohol-related trends reveals a number of changing patterns in UK drinking habits with a focus on the trends since 2000. The compendium aims to make official alcohol data fully accessible to all those interested in tracking trends in UK drinking patterns. It is the first time that all the key data sets have been brought together, directly from their original sources – making it easier to identify important trends.

The document will be updated with the release of any new official data.

www.wsta.co.uk/resources/guides-publications/64-trends-in-alcohol-a-compilation-of-data-from-across-the-uk?view=document

Who under-reports their alcohol consumption in telephone surveys and by how much?

Adjustments for under-reporting in alcohol surveys have been used in epidemiological and policy studies which assume that all drinkers underestimate their consumption equally. This study aimed to describe a method of estimating how under-reporting of alcohol consumption might vary by age, gender and consumption level.

More than 40,000 participants in the Canadian Alcohol and Drug Use Monitoring Survey 2008-10 were asked about beverage-specific 'yesterday' consumption (BSY) and quantity-frequency (QF). Observed drinking frequencies for different age and gender groups were calculated from BSY and used to correct values of F in QF. Beverage-specific correction factors for quantity (Q) were calculated by comparing consumption estimated from BSY with sales data.

The study found that drinking frequency was underestimated by males (Z = 24.62) and females (Z = 17.46) in the quantity-frequency as assessed by comparing with frequency and quantity of yesterday drinking. Compared with sales data, spirits consumption was underestimated by 65.94%, wine by 38.35% and beer by 49.02%. After adjusting Q and F values accordingly, regression analysis found alcohol consumption to be underestimated significantly more by younger drinkers (e.g. 82.9 ± 1.19% for underage drinkers versus 70.38 ± 1.54% for those 65+) and by low-risk more than high-risk drinkers (76.25 ± 0.34% versus 49.22 ± 3.01%). Under-reporting did not differ by gender.

The researchers suggest that alcohol consumption surveys can use the beverage-specific 'yesterday method' to correct for under-reporting of consumption among subgroups.

Source: Who under-reports their alcohol consumption in telephone surveys and by how much? An application of the 'yesterday method' in a national Canadian substance use survey. Stockwell T1, Zhao J, Macdonald S. Addiction. 2014 May 13. doi: 10.1111/add.12609.

Alcohol and drug education in multicultural settings

A briefing paper from Mentor Adepis addresses the sensitivities of delivering alcohol and drug education in multicultural settings including classrooms: Not all pupils will be comfortable discussing certain topics, and some parents will be reluctant to allow their children to explore certain themes. The paper asks 'How do we ensure pupils receive relevant education, in the context of cultural difference, equality and diversity, which prepares them for the challenges and opportunities they will face throughout their lives?'

'Making it Inclusive: Alcohol and drug education in multicultural settings', part of a series by Mentor on alcohol and drug education and prevention, for teachers and practitioners, outlines key requirements to ensure the delivery of culturally sensitive alcohol and drug education in the classroom.

mentor-adepis.org/making-it-inclusive-alcohol-and-drug-education-in-multicultural-settings/

Public Health England Marketing Strategy

Public Health England (PHE) has published its 2014-17 marketing strategy, outlining plans for campaign related activity around alcohol and other lifestyle behaviours.

Plans for alcohol-related communications are restricted due to budget limitations and recognition of the limited evidence base for alcohol campaigns in changing behaviour, alongside the awaited revisions to the Chief Medical Officer (CMO) drinking guidelines, which are unlikely to be available before the end of the year.

In the Strategy, PHE have outlined plans for two regional pilots (A participative abstinence event and promoting irregular drinking) and are also currently developing a wider Health and Wellbeing Framework to identify the key interventions for improving health and reducing inequalities.

The strategy identifies a number of possible areas for 'social marketing' based activity including binge drinking and preventing early age drinking with a recommendation to focus PHE's funds on increasing and higher risk drinking in middle-aged and/or older adults, particularly as Drinkaware will continue it's campaigns around young people and young adults.

www.gov.uk/government/publications/public-health-england-marketing-strategy-2014-to-2017

Anti-alcoholism pill could come to England

A once-a-day pill that can help alcoholics reduce drinking has won the support of health officials in England. The National Institute for Health and Care Excellence (NICE) has said that Nalmefene should also be available in England where it could benefit 600,000 people at a cost of £600m a year. Nalmefene works by reducing the "buzz" people get after drinking with the aim of controlling alcohol cravings.

Professor Carole Longson, of NICE, said the drug is "clinically and cost effective for the NHS" compared to administering psychosocial interventions alone. However she stressed that the drug should only be prescribed in partnership with continued therapy and support.

The drug is already in use in Scotland which became the first European country to prescribe it in October last year following a positive study which resulted in men who usually drank eight units a day and women who drank six a day cut their intake by half while taking the drug for six months. A consultation on its introduction on the NHS is now open with further information expected in November. A separate consultation will take place in Wales and Northern Ireland.

Northern Ireland - changes to laws on sale of alcohol

Social Development Minister Nelson McCausland has announced proposed changes to laws surrounding the sale of alcohol in Northern Ireland. The move follows a Department for Social Development consultation in 2012 on changes to the law regulating the sale and supply of alcohol.

The changes being brought forward include: restrictions on the advertising of alcohol in supermarkets and off sales premises; introduction of an occasional additional late opening hour for certain licensed premises on up to 12 occasions per year; "modest" changes to the Easter opening hours for public houses, with normal opening hours applying on the Thursday and Saturday before Easter; the alignment of the alcohol and entertainment licensing systems to "make enforcement of the law on late opening easier for the police"; formal approval for codes of practice on the "responsible" sale of alcohol; and minor changes to the law affecting private members clubs.

Minister McCausland said: "While I am keen to ensure that licensing laws assist in supporting the hospitality industry and tourism it must be in a way that does not add to the difficulties we already have with alcohol as a society. The challenge is finding the right balance."

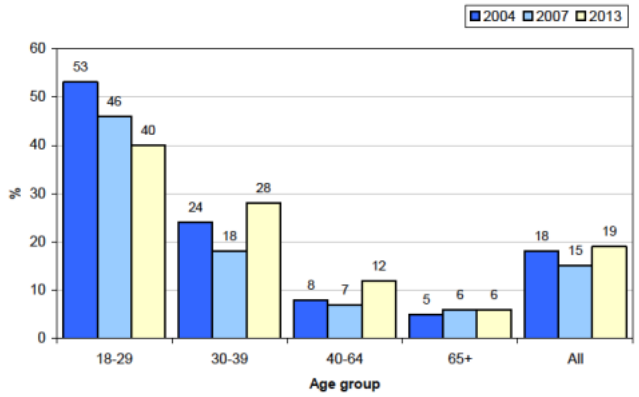
Scots recognise the harmful impact of alcohol

The Scottish Social Attitudes Survey, commissioned by NHS Health Scotland and conducted by Scot Cen Social Research, has tracked changes in attitudes to drinking alcohol since 2004. For the first time it provides a baseline of public attitudes to minimum unit pricing and reveals that views on minimum pricing are divided, with slightly more in support of the policy than against it.

New results show that an increasing number of people recognise the harm which alcohol causes in Scotland. In 2013, 60% of Scots thought alcohol was the drug causing most problems in Scotland, an increase from 46% in 2004. Whilst attitudes to getting drunk have remained largely unchanged since 2004, there has been a drop in the proportion of people aged 18 to 29 agreeing that getting drunk at weekends is acceptable, from 53% in 2004 to 40% in 2013.

The survey found that views on minimum unit pricing were divided, with 41% in favour, 35% against and 22% neither for nor against. 84% of Scots think alcohol either causes 'a great deal' or 'quite a lot' of harm in Scotland. Alcohol is still viewed as a social lubricant and there was a small increase in the proportion of people who think 'it is easier to enjoy a social event if you've had a drink' (from 35% in 2004 to 39% in 2013).

Figure 3.4: Agree/ agree strongly that 'Getting drunk is a perfectly acceptable thing to do on the weekends', by age (2004, 2007, 2013)



Progress report in Northern Ireland on preventing and addressing drug and alcohol related harm

Health Minister Edwin Poots presented the second annual report on progress against Northern Ireland's cross-departmental strategy to prevent and address the harm related to the misuse of alcohol and drug misuse – the New Strategic Direction for Alcohol and Drugs Phase 2.

A revised strategy was launched in 2012, and according to the report, much progress has been made: A review has been undertaken of alcohol and drug services, with new services and care pathways becoming available in the near future; a Drug and Alcohol Monitoring and Information System is now in place; there is greatly increased service user involvement; workplace guidelines have been developed and disseminated; a new prescription drug misuse action plan has been developed; and work is underway to develop new alcohol guidelines.

Launching the report Mr Poots said "There is still much to do and we are not complacent about the task ahead of us… Almost 400 people die each year from an alcohol and/or drug related cause, and over 14,000 people are still admitted to hospital every year from alcohol and drug related conditions. I am therefore committed to ensuring that the New Strategic Direction for Alcohol and Drugs Phase 2 continues to be implemented as effectively as possible, and I would like to acknowledge all those who have supported this work to date – particularly those working in the community and voluntary sector."

www.dhsspsni.gov.uk/nsd-phase-2-2nd-annual-report-june-2014.pdf

The 2012 ESPAD impact survey

After the launch of the 2011 ESPAD report, a second impact survey was conducted in 2012 to explore whether interest in, use of and impact of the ESPAD 2011 report was as high as that found after the 1995 and 1999 reports. The survey was a joint initiative of the Pompidou Group and ESPAD, with a contribution of the EMCDDA.

Interest in, and the impact of, ESPAD reports are lower now than after the first two (1995 and 1999) reports. One reason might be the fact that ESPAD data in 1995 and 1999 in many countries were among the first of this kind to be collected on a regular basis. It was probably also considered important that ESPAD provided an opportunity to compare national data with the situation in a large number of other countries.

It may seem logical that the interest in, and impact of, ESPAD is lower after the fifth (2011) than after the first two data collections. It seems likely that many of these countries now have access also to many more substance-related variables than they did 15 years ago. Therefore the importance of ESPAD may remain very high, but that ESPAD results, to a greater extent than before, are now accompanied by other available data that together give a more comprehensive picture of substance use and its related problems.

The survey results indicate that even though interest in, and the use and impact of, the ESPAD 2011 report(s) is less than after the 1995 and 1999 reports, it is clear that the 2011 report stimulated high levels of interest and that it has influenced the drug debate and policy in many countries.

www.emcdda.europa.eu/publications/joint-publications/2012-espad-impact-survey

Tighter drink driving regulations in Lithuania

On 26th June 2014 Seimas of the Republic of Lithuania adopted new amendments on Republic of Lithuania Law on Road Traffic Safety that tightened drunk driving regulations.

The changes include the introduction of a 0 g/l maximum permitted blood alcohol content (BAC) limit for novice drivers (drivers who have held a license for less than 2 years) and all drivers who drive light four-wheel, four-wheel, powerful four-wheel vehicles with a maximum mass exceeding 3.5 tones or with more than 9 seats or transporting dangerous goods. The 0 g/l limit will also be adopted for mopeds, motorcycles, tricycles and taxi drivers. Currently, novice drivers, motorcyclists and taxi drivers are allowed to have BAC limit of 0.2 g/l. The legal standard BAC for professional drivers who have held their licence for more than two years does not change. It will remain 0.4 g/l.

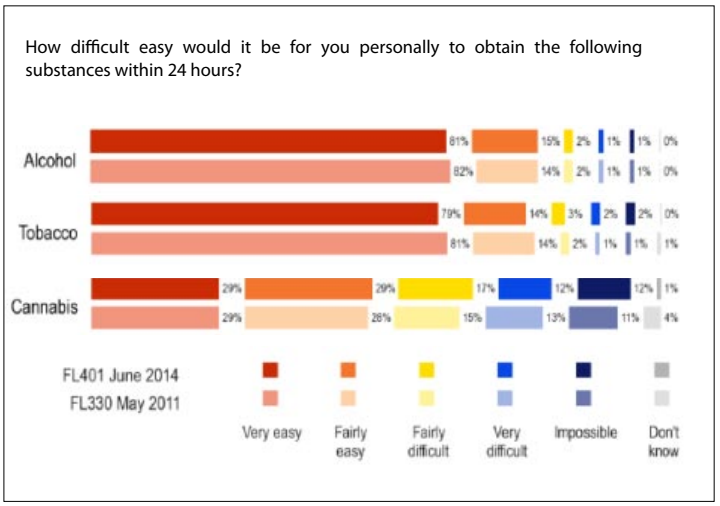
This law will come into force on 1st January, 2015.

Flash Eurobarometer 401- Young people and drugs

A European survey on young people's opinions on drugs (including alcohol) was carried out for the European Commission, requested by the Directorate-General for Justice.

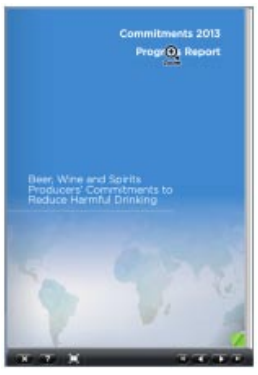
The survey was conducted by telephone from 3rd to 23rd of June 2014 among a representative sample of population of 15 to 24 year olds in the 28 Member States of the EU. 13,128 interviews took place (n=500 respondents in all the Member States, with the exception of Cyprus, Luxembourg and Malta, where n=200). Key findings include:

- Around a quarter of respondents believe it would be easy to obtain cocaine, new substances and ecstasy, and over half believe it would be easy to obtain cannabis. 81% say that alcohol is very easy to obtain and 15% say that it fairly easy to obtain.
- Heroin, cocaine and ecstasy should be banned in the opinion of most respondents, while, for cannabis, a little more than half of them say so. Only 7% of participants thought alcohol should be banned, but 91% thought it should be regulated (up from 76% in May 2011).
- The Internet is by far the most-used source of information about illicit drugs and drug use (59%). The role of media campaigns (-12 points) and school prevention programmes (-9 points) in informing young people about illicit drugs has sharply decreased since 2011.
- Over half believe that using ecstasy, cocaine and new substances once or twice may pose a high risk to a person's health. Regular alcohol consumption was thought to be high risk by 57% and medium risk by 35%.
- In addition to measures against drug dealers (57%), information campaigns (43%) and more sport, entertainment and cultural activities for young people (36%) are seen as the most effective ways to reduce drugs problems.



Leading producers of beer, wine, and spirits report on commitments to reduce harmful use of alcohol

Thirteen of the world's leading producers of beer, wine, and spirits released their report on the progress made in 2013 towards implementing the Beer, Wine and Spirits Producers' Commitments to Reduce Harmful Drinking. The report, which was based on key performance indicators developed by Accenture Sustainability Services and assured by KPMG Sustainability, examined progress made on 10 different action areas. Among other achievements, the producers:



- defined specific, measureable targets for all 10 action areas included in the Commitments, which will allow the producers to assess progress going forward;
- ran 135 education programmes across the world, either individually or in partnership, aimed at preventing and reducing underage drinking, reaching nearly 1 million young people under the legal purchase age in alcohol education programmes and more than 500,000 parents, teachers, and community leaders;
- determined through an analysis in seven countries that more than 96% of producer advertising is compliant with the "70/30 rule" under which advertising is placed in media where at least 70% of the audience is of legal drinking age;
- found that none of the signatories' products contained excessive quantities of stimulants; and
- developed guiding principles for responsible digital marketing, which are now out for review by industry, public health organisations, trade associations, and other interested parties.

The next report will be published in 2015, but there will be regular updates on the progress in implementing the Commitments at producerscommitments.org/

epublishbyus.com/ebook/ebook?id=10037612#/0

Youth Risk Behavior Surveillance — United States, 2013

The Youth Risk Behavior Surveillance System (YRBSS) monitors six categories of priority health-risk behaviours among youth and young adults including alcohol and other drug use. The survey results are given for the US overall, but also analysed by State level and school district.

Results from the 2013 national YRBS indicated that many high school students are engaged in health-risk behaviors associated with the leading causes of death among persons aged 10–24 years in the United States. During the 30 days before the survey, 41.4% of high school students (among the 64.7% who drove) had texted or e-mailed while driving, 34.9% had drunk alcohol, and 23.4% had used marijuana.

Drinking alcohol before age 13 years

18.6% of students had drunk alcohol (more than a few sips) for the first time before age 13 years. The prevalence was higher among male (20.5%) than female (16.6%) students and higher among black (21.0%) and Hispanic (21.8%) than white (16.7%) students. A significant linear decrease occurred overall 1991–2013 (32.7%–18.6%). Across 40 states, the prevalence ranged from 8.8% to 25.6% (median: 18.1%).

Current alcohol use

34.9% of students had had at least one drink of alcohol on at least 1 day during the 30 days before the survey (i.e., current alcohol use). The prevalence was higher among white (36.3%) and Hispanic (37.5%) than black (29.6) students. Current alcohol use increased with age (24.4% of 9th-grade, 30.9% of 10th-grade, 39.2% of 11th-grade and 46.8% of 12th-grade students). A significant linear decrease occurred 1991-2013 (50.8%– 34.9%). Current alcohol use decreased from 2011 (38.7%) to 2013 (34.9%). Across 41 states, the prevalence ranged from 11.0% to 39.3% (median: 32.7%).

Being given alcohol

Among the students who currently drank alcohol, 41.8% had usually obtained the alcohol they drank by someone giving it to them. The prevalence of this was higher among female (46.7%) than male (36.7%) students, and higher among white (42.9%) than black (34.9%) students. The prevalence of having someone give alcohol to them was higher among 9th-grade (45.1%) and 11th-grade (42.7%) than 12th-grade (38.7%) students.

Five or more drinks in a row

20.8% of students had consumed five or more drinks of alcohol in a row (i.e., within a couple of hours) on at least 1 day during the 30 days before the survey. The prevalence was higher among white male (25.3%) than white female (21.1%) students and higher among 11th-grade male (27.6%) and 12th-grade male (32.3%) than 11th-grade female (21.6%) and 12th-grade female (26.2%) students, respectively.

The prevalence of having five or more drinks of alcohol in a row was higher among white (23.2%) and Hispanic (22.6%) than black (12.4%) students. Prevalence increased with age (13.5% of 9th-grade, 17.4% of 10th-grade, 24.6% of 11th-grade and 29.2% of 12th-grade students). A significant linear decrease occurred overall 1991–2013 (31.3%–20.8%). Across 42 states, the prevalence ranged from 5.9% to 24.4% (median: 18.3%).

Ten or more drinks in a row

6.1% of students reported that the largest number of drinks that they had consumed in a row (i.e., within a couple of hours) during the 30 days before the survey was 10 or more. The prevalence was higher among male (8.0%) than female (4.2%) students; and higher among white (7.1%) and Hispanic (7.1%) than black (1.6%) students. 3.5% of 9th-grade, 5.3% of 10th-grade, 7.8% of 11th-grade and 7.9% of 12th-grade students consumed at this level. Across 27 states, the prevalence ranged from 1.2% to 9.0% (median: 4.3%).

According to the authors, results from the 2013 national YRBS also indicate many high school students are engaged in behaviors associated with chronic diseases, such as cardiovascular disease, cancer, and diabetes. During the 30 days before the survey, 15.7% of high school students had smoked cigarettes and 8.8% had used smokeless tobacco. During the 7 days before the survey, 5.0% of high school students had not eaten fruit or drunk 100% fruit juices and 6.6% had not eaten vegetables. 41.3% had played video or computer games or used a computer for something that was not school work for 3 or more hours per day on an average school day.

source: Morbidity and Mortality Weekly Report. Surveillance Summaries, June 13, 2014 / Vol. 63 / No. 4 19

www.cdc.gov/mmwr/pdf/ss/ss6304.pdf

Alcohol responsibility awarenes in the US

Just prior to the July 4th weekend, Anheuser-Busch announced results of its survey on responsible drinking in America – The Anheuser-Busch Responsible Drinking Alcohol IQ Test. This survey was conducted online within the United States between June 13th and 17th, 2014 among 1,978 adults aged 21 and older by Harris Poll on behalf of Anheuser-Busch.

The survey found that 61% of participants are aware of the national Blood Alcohol Concentration limit (0.08) for drunk driving, with men (67%) significantly more likely than women (57%) to be able to correctly identify it. and 82% are aware that a person's blood alcohol level can continue to rise after they stop drinking.

Only 22% of Americans aged 21+ are aware that drunk-driving fatalities have decreased over the past 10 years. 50% thought that they had actually increased. Only 61% of respondents realised that all drunk-driving fatalities are preventable.

In terms of alcohol drinks, 88% of respondents knew that the amount of alcohol can vary between beer, wine and spirits. Although 86% of those surveyed knew that the alcohol by volume percentage determines the alcohol content of a drink, only 49% realise that the serving size also has an impact. 83% of those questioned were aware of at least one of the three listed ways a person can moderate their blood alcohol level – eating before drinking alcohol beverages (64%), alternating alcohol drinks with water or non-alcohol drinks (60%)or pacing themselves by not drinking too fast (54%).

newsroom.anheuser-busch.com

Harvard-affiliated Hospital will screen all patients for alcohol and drug use

Massachusetts General Hospital, affiliated with Harvard Medical School in Boston, has announced it will screen all patients for alcohol and illegal drug use starting from this autumn.

All patients will be asked a series of four questions related to drinking and drugs. If the answers reveal a possible addiction, a special addiction team can be called to do a "bedside intervention" and arrange for treatment. While many hospitals screen patients for substance use when they come into the ER, Massachusetts General will screen all patients, whether they are coming in for a routine procedure or being treated in the emergency room.

It is thought that almost a quarter of patients nationwide who visit hospitals for routine medical problems have active substance use disorders. Dealing with substance abuse in traditional medical settings can help hospitals to coordinate care and lower costs more effectively. The Affordable Care Act is pushing hospitals and doctors to reach both these goals.

Dr Sarah Wakeman, Medical Director for Substance Use Disorders at Massachusetts General's Center for Community Health Improvement, said the hospital wants to shift the culture to make it easier for people to access care for addiction. Being in the hospital is "a reachable moment," when social workers and psychiatrists can bring treatment to the patient at the bedside, she said.

Pernod Ricard launches 'Responsible Marketing' online training for its employees

Pernod Ricard is launching an internal online training module on 'Responsible Marketing'. All employees in Marketing roles worldwide will complete this online training and take a test to demonstrate their knowledge. Marketing agency consultants working with the Group's entities will also be required to follow this module in order to comply with Pernod Ricard's ethical commitments.

Armand Hennon, Chairman of the Internal Approval Panel said, "The 'Responsible Marketing' e-Learning module is an integral and essential part of the journey for those starting out in marketing as well as for all our partner marketing agencies, thus ensuring that the Group continues to set an example in the advertising campaigns it develops."

Alban Marignier, Head of Pernod Ricard University, added, "'Responsible Marketing' is the result of the close collaboration between the Responsible Drinking teams and those of Pernod Ricard University."

"Serial drinker, social loser"

A new prevention campaign "serial drinker, social loser" has been launched in France targeting young people from 18 to 25 years old to warn them against the effects of excessive alcohol consumption, specifically the impact that social media might have. The awareness of the site will be raised using an advertising campaign on Facebook, which is expected to reach 2.5 million young people.

The campaign is based on an interactive website telling the story of Antoine, a student who arrives in classroom after a heavy night. Looking tired, Antoine is criticised by his best friend for his behaviour the night before. Website user are taken through the night, drink by drink ending in the publication on social media sites of embarrassing pictures and videos of Antoine. While watching the night out, website visitors are invited to answer questions for and compare their answers to those of other visitors. This approach combines many elements that have been identified in scientific literature as being effective at positively influence attitude and behaviour: knowledge, resistance skills, social norming, etc.

serialbuveursocialoseur.com/story.html

'Mouth' advert encourages teens to speak for themselves in the US

Above the Influence campaign (ATI) is a drug and alcohol prevention initiative created for American youth. The Partnership Drug-Free Kids is responsible for all national youth outreach, including advertising, social media and campaign websites. In July, the Partnership premiered a its teen-targeted television spot as part of its (ATI) campaign.

Entitled "Mouth," the new psa features a teenage boy talking with his friends. The boy's mouth opens to reveal mouths of other teens that speak for him in voices other than his own, responding to parts of the conversation for him. The voiceover ends the psa "Speak for yourself. Live Above The Influence." The ad is accompanied by digital banners, an interactive Facebook application game, "Mute the Mouth", and a set of humorous graphics that teens can share.

Caryn Pace, Chief Communications Officer for the Partnership for Drug-Free Kids commented "Today's teens feel pressure to be true and authentic. The 'Mouth' spot serves as a reminder to teens that while they are confronted with different types of influence and pressures every single day, they have the ability to live Above The Influence – to understand those pressures, and be true to themselves."

drugfree.org/newsroom/above-the-influence-mouth-psa

NIH Cocktail Calculator

The alcoholic strength of cocktails vary widely depending on the recipe. The National Institutes of Health is offering a solution. It has an online calculator to measure how much alcohol really is in your drink. According to the NIH, a normal drink is the amount of alcohol in a 12 ounce beer or 5 ounces of wine. However, with cocktails and mixed drinks, the use of multiple ingredients make it more difficult to get an exact measure.

rethinkingdrinking.niaaa.nih.gov/ToolsResources/CocktailCalculator.asp

AIM – Alcohol in Moderation was founded in 1991 as an independent not for profit organisation whose role is to communicate "The Responsible Drinking Message" and to summarise and log relevant research, legislation, policy and campaigns regarding alcohol, health, social and policy issues.

AIM Mission Statement

- To work internationally to disseminate accurate social, scientific and medical research concerning responsible and moderate drinking
- To strive to ensure that alcohol is consumed responsibly and in moderation
- To encourage informed and balanced debate on alcohol, health and social issues
- To communicate and publicise relevant medical and scientific research in a clear and concise format, contributed to by AIM's Council of 20 Professors and Specialists
- To publish information via www.alcoholinmoderation..com on moderate drinking and health, social and policy issues – comprehensively indexed and fully searchable without charge
- To educate consumers on responsible drinking and related health issues via www.drinkingandyou.com and publications, based on national government guidelines enabling consumers to make informed choices regarding drinking
- To inform and educate those working in the beverage alcohol industry regarding the responsible production, marketing, sale and promotion of alcohol
- To distribute AIM Digest Online without charge to policy makers, legislators and researchers involved in alcohol issues
- To direct enquiries towards full, peer reviewed or referenced sources of information and statistics where possible
- To work with organisations, charities, companies and associations to create programmes, materials and policies built around the responsible consumption of alcohol.

AIM SOCIAL, SCIENTIFIC AND MEDICAL COUNCIL