

Several studies this quarter have thrown new perspectives on the role of alcohol in heart disease.

An interesting study by U. Schminke et al has thrown doubt over alcohol's role in preventing 'hardening of the arteries' or atherosclerosis. The study suggests that most of the potentially protective effects of alcohol on the risk of a heart attack may not be through reducing 'thickening' of the arteries, but may relate more to alcohol's effects on blood clotting, on the functioning of the lining of the arteries (endothelial function), and rupture of plaques.

The research looked at alcohol intake and carotid intima-media thickness (IMT) in 1,230 men and 1,190 women. At between 61 to 80g alcohol intake a significant inverse association between IMT and alcohol intake was found, but at > 80g/d in men the J-shaped curve became insignificant after controlling for HDL cholesterol and fibrinogen. In women, neither a J-shaped relation nor significant differences in IMT between the drinking and non-drinking groups were found.

The authors conclude that alcohol consumption is inversely correlated with carotid IMT in men but not in women but that the daily level of alcohol intake that shows a maximum protective effect against atherosclerosis is above sensible drinking guidelines. For light drinking (e.g., 1/2 to 2 drinks/per day), a level that has been associated with large decreases in the risk of heart attacks, show little effect on IMT.

A second study by RC Ellison et al evaluates the relation of alcohol intake to the presence of Calcified atherosclerotic plaque in the coronary arteries (CAC) and calcified plaque in the aorta among 3,166 white and African-American subjects from the NHLBI Family Heart Study who

underwent cardiac CT scans. The authors conclude that despite its frequently demonstrated beneficial effects on coronary artery disease risk, alcohol consumption in this study was not associated with calcified atherosclerotic plaque in the coronary arteries or in the aorta. This suggests that its effects on cardiovascular risk may occur through mechanisms other than those associated with the development of calcified plaque.

Curt Ellison comments on the research 'Based on this and most previous papers on this topic, we suggest that studies of the effects of alcohol on cardiovascular risk cannot use IMT or CAC as indices of effect, but should rely on the effects of alcohol intake on clinical events (myocardial infarction, stroke, etc.). Further, we interpret this and many previous studies as emphasizing that the effects of alcohol intake on coagulation, fibrinolysis and endothelial function may be more important than alcohol's effects on atherosclerosis in explaining the usual finding of lower rates of myocardial infarction and cardiovascular death among moderate drinkers.

A third study by KJ Mukamal et al looked at the alcohol consumption of 16,415 individuals in the Copenhagen City Heart Study to study and identify cases of atrial fibrillation (AF) by routine study ECGs and hospitalizations. AF is a common disorder of heart rhythm, and markedly increases the risk of stroke. 1071 cases of AF occurred. Among both women and men, moderate alcohol consumption was not associated with AF. However, consumption of 35 or more drinks per week among men resulted in a 45%

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increase in risk ; few women consumed this amount of alcohol.

Approximately 5% of cases of atrial fibrillation among men were attributable to heavy alcohol use. The authors conclude that heavy alcohol consumption is associated with a higher risk of atrial fibrillation, at least among men. This relationship does not appear to be related to the adverse effects of heavy drinking on coronary heart disease or blood pressure. It has long been known that binge drinking

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The Quebec Liquor Monopoly has come under fire; a research paper published by the Montreal Economic Institute claims that “Neither theoretical arguments nor economic performance justify maintaining the SAQ’s current monopoly”. The paper, which reviews the justifications for preserving a government monopoly on liquor sales in Quebec and the economic consequences of this policy, states that “no reason exists to preserve this paternalistic attitude on the part of public authorities who seek to dictate lifestyles and to tell consumers which beverages they have the right to drink. As responsible adults, citizens are capable of making their own choices”. While in the 1920s the Quebec government clearly had the most liberal and least detrimental policy in North America for controlling the sale of liquor, in 2005 it is among the most restrictive. “The time has come to discuss the various ways of privatizing the SAQ and liberalizing liquor sales, turning a page that goes back to the era of

Scotland

Whisky Producers have taken a strong stance on responsible drinking by launching a series of industry rules governing the marketing and promotion of Scotch Whisky in the UK. The Scotch Whisky Association Code of Practice covers all communications, including advertising, promotional materials and sponsorship. It will apply directly to all brand activities in the UK.

Gavin Hewitt, SWA chief executive commented: “Distillers take their responsibilities seriously and already adhere to the various rules that apply, including the Ofcom code in the UK. But with 90% of scotch whisky sold overseas, the code also sets out best practice internationally”.

The SWA will have the power to impose sanctions on distillers who breach the rules as the guidelines are backed by an independent Complaints Panel. The code represents the toughest self-regulation by a single alcoholic drinks sector anywhere in the world.

EU

The European Commission has released details of drinks industry legislative proposals it will abandon under a drive by the current regime to simplify European Union (EU) laws and its political process.

Brussels is to drop a proposed directive insisting that rules for drinks ingredients labelling for beverages containing more than 1.2% of alcohol by volume are adopted within a certain timeframe.

Both the European Parliament and the EU Council of Ministers have refused to discuss the law since 1999.

US

California lawmakers have been debating how to tax sweetened alcoholic drinks. Ready-to-drink brands such as Mike’s Hard Lemonade and Smirnoff Ice, are currently taxed as beer, at 20 cents per gallon instead of US\$3.30-a-gallon for distilled spirits, and are sold at convenience stores.

Some legislators want to change their classification to liquor to discourage underage consumption and generate about US\$40m in annual tax revenue. A recent survey found that the beverages are especially popular among underage girls: by age 18, a third have tried them and 82% find them better tasting than other alcoholic drinks.

Malaysia

Sales of beer and stout in Malaysia are expected to fall following changes to the tax system. The Malaysian government has cut sales tax by 5% but increased excise duty by 23%. The authorities have also introduced a new Ad Valorem tax.

The Confederation of Malaysian Brewers (CMBB) said that the end result of these changes is a tax increase close to 9%. This rise “will inevitably be passed on to the consumers,” a statement from the CMBB said. The CMBB said it believes sales in the sector will crash 12 to 15% year-on-year, as a result of the tax increase.

(continued from front page)

acutely increases the risk of AF. (Continued on page 3)

Information on binge drinking was not available in this study, so we cannot know if repeated binge drinking, rather than a constant high intake of alcohol, was the major cause of increased risk of AF among the heavier drinking subjects.

A review of alcohol and the heart by Dr Klatsky appears on page 10 of this edition of AIM.

Sources: Schminke U et al Association between alcohol consumption and subclinical carotid atherosclerosis. The Study of Health in Pomerania. *Stroke*. 2005;36:1746-1752.

Ellison RC et al Is alcohol consumption associated with calcified atherosclerotic plaque in the coronary arteries and aorta? *Am Heart J* 2005

Mukamal KJ, et al consumption and risk of atrial fibrillation in men and women. The Copenhagen City Heart Study. *Circulation* 2005;112:1736-1742.

One million fewer wine consumers in France since 2000

Data produced by the latest five-year consumer survey commissioned by intervention board ONIVINS reveal that the French are drinking less wine than ever. The number of people actually claiming to drink wine, both core and marginal wine consumers, has dropped by one million since 2000. The percentage of the population now drinking wine has thus fallen from 80.8% in 1980 to 62% in 2005. Even though the greatest decline took place in the 1980s, another 5 % were lost between 2000 and this year. The study also showed that marginal wine consumers (once or twice a week or less) continue to supplant core drinkers (daily or almost). Their share of the wine drinking population (over 14) has dropped from 60% in 1980 to around a

third currently. Marginal consumption is now the most frequent type of drinking with 40% of 14-year-olds and over claiming to drink wine weekly. Although both men and women have reduced the amount of wine they drink, regular drinking has declined most significantly amongst men whilst fewer women are now marginal consumers; 29% of French men do not drink wine now, though in both cases the number of abstainers has risen by 5%. Another trend thrown up by the research shows that there are virtually no core drinkers amongst the under 35s and that young adult consumers do not automatically become core drinkers in the way the previous generations did.

Source: *Journee Vinicole*

AIM's websites double traffic to 50,000 visits a month year on year

With the launch of AIM's two publications this Autumn - the 'Alcohol and You' consumer guide distributed via Waitrose supermarkets and featured in The Saturday Times and 'The Wise Drinkers Guide' designed for those coming into the trade website traffic to www.drinkingandyou.com and www.aim-digest.com has doubled. Visitors to AIM's nine sites in five languages nudged 50,000 for the first time this October, putting it in Google's most visited alcohol sites internationally.

AIM is looking for partners to improve its drinkingandyou websites to make them more interactive and attractive to young consumers in particular. Each site is tailored around each governments sensible drinking guidelines (UK, France, Spain, Sweden, The US and Canada), and if suitable, links are made to SAO and industry initiatives.

If you would like to be involved in the website review and content, please contact helena.conibear@aim-digest.com

Russian 'surrogate' alcohols are a killer

Heavy alcohol consumption contributes to numerous problems in Russia, including a very high death rate. Martin McKee, professor of European public health at the London School of Hygiene and Tropical Medicine, has conducted a study of 25 to 54-year-old Russian men living in the industrial city of Izhevsk. Research has discovered that a significant proportion of the men consume 'surrogate' alcohols, i.e. products containing alcohol that are not legally sold for consumption.

Researchers analyzed the surrogate products being consumed, dividing them into three broad groups: 'samogon' (home-produced spirits, also

known as 'moonshine' in North America); medicinal compounds, essentially tinctures containing herbal remedies; and other spirits (mainly aftershave products and cleaning fluids). Commercially produced vodkas were used for content comparison.

The findings indicate that a significant proportion of Russian men are drinking products that have either very high concentrations of ethanol, or contaminants known to be toxic. "We found that home-made alcohol had about the same amount of alcohol as vodka, but also contained a number of more toxic alcohols that could cause

damage to the heart and liver," said McKee. "The medicinal substances were about one and a half times as strong as vodka. The third group, including products such as aftershaves, was more than twice as strong as vodka."

Both McKee and Shkolnikov believe a similar situation may exist in other regions of Russia. McKee is hopeful that the Russian government are aware of the seriousness of the problem. The president specifically mentioned the need to tackle surrogate alcohols in his 2005 state-of-the-nation address.

The effect of binge drinking on the lives of 18-30 year olds in UK

A recent Portman Group survey, entitled "Anatomy of a big night out", was conducted amongst 1000 UK 18-30 year olds. It focussed not only on drinking patterns, but also the behaviours surrounding drinking, the reasons for drinking and the consequences of it.

The findings are reported by regional areas, but a relatively consistent pattern emerges throughout the UK. About a third of respondents classed themselves as moderate regular drinkers and 22% said that they were regular heavy drinkers. When asked about the frequency of 'the big night out' responses ranged from once a month (27% in Wales), to once a week (24-30% (over all regions)), to several times a week (14-18%).

The number of units consumed on a big night out ranged from 9-11. Less than 37% participants in London and the SE reported that they might have a soft drink, and only about a half of all respondents would have a meal either before going out or as part of the evening.

Peer pressure plays a big part in getting drunk with 34% of interviewees saying that they got drunk because their friends were doing the same. 38% in North England cited cheap offers in pubs or bars as a reason for drunkenness. More than 33% said that they had got carried away and 31% said that they'd had a bad day or week. In the Midlands 26% drank to impress someone and one third drank to make themselves feel more confident.

Most shocking were the consequences of drinking with 34% of young

women reporting unplanned or unprotected sex. Almost four in ten young women (36%) have been sexually assaulted after getting drunk and 2% of men questioned also said that they had been sexually assaulted after drinking too much.

In Scotland 26% of interviewees had been arrested or cautioned by the police and in Wales 27% had lost property or had property stolen. (This compares to 16% in London and the SE and 24% in the Midlands).

Over 63% of all respondents phoned in sick for work after a big night out. More than half of young women (59%) said that they had got into an argument and 45% of young men said that they had argued. More young women than men claimed to have been arrested or cautioned by the police and more young women said they had been injured through an accident after getting drunk.

Jean Coussins, Chief Executive of The Portman Group commented: "These findings are disturbing...the fact that so many young women are being sexually assaulted after getting drunk is shocking.What is most alarming of all is the fact that young women seem to be risking more than young men".

It is hoped that the research can be used to influence young women's behaviour. Relevant issues, such as getting home safely and avoiding being assaulted, are known to have more of an impact on reducing damaging patterns of drinking than 'drink less' initiatives.

UK drink drive deaths rise

The Parliamentary Advisory Council for Transport Safety has released figures for 2003. The overall annual death toll on UK roads fell to a record low of 3,221, but drink drive death figures rose to their highest level for 12 years, with 590 deaths, 2350 serious injuries and 14,000 slight injuries involving a driver over the drink drive (dd) limit.

Dd deaths have risen steadily over the last 17 years from a low in 1998 of 460. Drivers 17-19 are most likely to be involved in dd crashes (44 per 100 million miles) and drivers over the age of 50 are least likely to be involved (1 dd crash per 100 million miles). Men are three times more likely than women to be involved.

Motoring groups allege that police forces are relying on speed cameras to do the work of traffic police and therefore visible policing on the roads has reduced. Traffic policennumbers have fallen by 11% since the mid 1990s and breath tests have declined to 534,000 in 2003 from 815,000 in 1998.

Road safety campaigners argue that these statistics highlight the need for the UK government to adopt the lower 50mg limit of most European countries. Research by UCL estimated that lowering the limit to 50mg could prevent 65 deaths, 230 injuries and save the economy £119 million a year in medical costs & lost working time. The BMA supports the introduction of the 50mg limit believing that it would be easier to understand than the current limit.

A quarter of UK adults are binge drinkers

A BUPA survey of 2,000 people found almost a third of men and a fifth of women drank at least double the recommended daily limit. BUPA Wellness says 11 million Britons are risking their health in this way.

Despite the figures, more than two-thirds of those who drank more than the recommended amount on a night out denied that they were binge drinkers and a similar number were not concerned by their pattern of

drinking. More than eight out of 10 drinkers said they did not keep track of how much they drank during a night out and just under half said they believed drinking had no effect at all on their health.

Young men were found to be the most likely to binge-drink, (47% of those aged 18-24 were classed as binge drinkers). But recent reports show the gender gap is closing and that many young women now binge-drink.

Dr Peter Mace, medical director at BUPA Wellness, said part of the problem was that drinking limits were not as easily defined as they once were, with beers and wines served in a variety of strengths and sizes "Our research shows that almost half of drinkers are baffled by government advice on safe drinking limits....There is a strong need for education to stem what is fast becoming a serious health and social problem for the UK," he commented.

Treatments for alcohol abuse save society five times as much as they cost

Research recently published by the BMJ illustrates that two types of non-residential treatments for alcohol abuse are highly effective and could save society five times as much as they cost to run.

Researchers compared the success of a new treatment - social behaviour and network therapy - with the tried and tested motivational enhancement therapy. Both treatments allow clients to continue their daily lives rather than involving residential stays. As part of the study a separate paper looked at the cost effectiveness of both treatments.

As the name suggests social behaviour and network therapy helps people with alcohol problems to build social networks to support them in changing their drinking behaviour, and involves up to eight 50 minute sessions with a therapist. Motivational enhancement therapy, made up of three 50 minute sessions, combines motivational counselling with feedback on progress.

The study involved over 600 people with alcohol problems across three regions -

West Midlands, South Wales and Leeds. Clients were from a range of social backgrounds, and were interviewed at the start of the study, after three months, and again after 12 months.

The researchers found that both sets of treatments resulted in much-reduced levels of alcohol consumption and dependency on alcohol. After three months of therapy, the number of alcohol-abstaining days had risen by almost 50% on average for both treatments, while the number of drinks per day had dropped by a third. Importantly clients sustained these levels of success, with similar results maintained twelve months into the programme. The therapies were also effective in reducing alcohol related problems - decreasing by 50% on average for both therapies after 12 months. Clients reported improvements in mental health and general well-being.

In determining the cost effectiveness of both therapies, researchers looked at the cost of the treatments (training and

salaries of therapists, hire of therapy rooms, etc), and the clients' cost impact on public sector resources before treatment, such as use of social services and appearances in court. They also included the impact on health services before treatment - such as use of GP time and number of hospital visits.

They found that the therapies resulted in substantial savings across health and social services - saving the public purse five times as much per client as the sum spent on their treatment. Training therapists for both sets of treatment costs little and results in significant financial gains for the economy, the authors conclude.

Source: UKATT Research Team. Effectiveness of treatment for alcohol problems: findings of the randomised UK alcohol treatment trial (UKATT) BMJ 2005:541-4; UKATT Research Team. Cost effectiveness of treatment for alcohol problems: findings of the randomised UK alcohol treatment trial (UKATT). BMJ 2005:544-8.

UK campaign against alcohol misuse

A Christmas alcohol misuse enforcement campaign will be launched to tackle violence and disorder attributable to alcohol and underage drinking.

The campaign in town centres is the second phase of an ACPO (Association of Chief Police Officers) and Home Office co-ordinated campaign to cut alcohol related violence. It will build on the good practice developed and lessons learned from the summer's campaign, which showed that sustained enforcement activity was successful in reducing the types of violent crime that cause serious injury and harm. The next phase of the campaign will run from 15 December 2004 to 1 January 2005. Every police force in England and Wales is being invited to take part.

The campaign is being spearheaded by the Police Standards Unit (Home Office) and the Association of Chief Police Officers (ACPO) in partnership with Trading Standards, Fire Service,

other local authority bodies, the licensing industry and A&E departments.

Tough enforcement measures will be employed to take action against irresponsible drinkers and vendors who are fuelling anti-social behaviour. The powers include: closing rowdy premises for 24 hours; issuing £40 fixed penalty notices for being drunk and disorderly and for the sale, purchase and consumption of alcohol to and by underage drinkers; using under 18s for sting operations in off licences, supermarkets, bars and clubs; and naming and shaming off licences, bars and clubs after conviction.

Home Office Minister Hazel Blears commented, "Christmas is a time when people should be able to have a few drinks and enjoy themselves, but should not be an excuse for violent and anti-social behaviour by a minority... the Summer campaign was a step towards changing the drinking culture in this

country and I hope the lessons we learned will be built on to extend the campaign out to every area of the country".

The Home Office also announced at the end of October that the Government and some supermarkets are to join forces to crack down on underage drinking.

The Home Secretary, Charles Clarke, and Culture Secretary Tessa Jowell met with representatives from the six major supermarket chains, the Wine and Spirit Trade Association and the British Retail Consortium to discuss strategies to prevent the sale of alcohol to minors in stores.

The Government and retailers signed up to a co-ordinated approach and agreed to meet again in the next few weeks to discuss an agreed action plan to promote sensible drinking and responsible retailing in the licence trade.

Bar staff trained on how to handle difficult situations and launch of BII retailing qualification

More than 150 bar staff in Cardiff are to receive training on how to help cut binge drinking and its related causes. They will have lessons in who they can and cannot serve, as well as tips on how to head off alcohol-related violence. The initiative is part of a community safety project that has seen the number of drink-fuelled injuries in the city cut by a fifth since 2002. Organisers have warned that bars which break licensing laws could be fined or have their licences revoked.

Issues covered on by the course include: The law about alcohol and young people; who can be refused drinks in licensed premises; which drinks are controlled by law; how the strength of a drink is measured and what a unit of alcohol is; the circumstances which may lead to violence on licensed premises and how trouble can be prevented; how barpersons can help to promote social

responsibility in the use of alcohol; how to act responsibly over 'happy hours'.

Findings suggest that alcohol-related problems in Cardiff city centre are caused by a small minority of drinkers. The training was designed following a survey of 700 drinkers. Participants provided breath tests for the survey. Of these, 17 were three times over the drink-drive limit, while a quarter were within the limit.

The training, conducted by the British Institute of Inn-keeping Awarding Body, aims to reduce binge drinking and associated problems such as violence and anti-social behaviour. The training aims to improve working practices to end the sale of alcohol to drunk or underage customers as well as to help bar staff when they are handling potentially difficult situations. The initiative marks an intervention by the Lion's Breath research

project, led by the Cardiff Community Safety Partnership and backed by police, Cardiff University and the Alcohol Education and Research Council.

In addition the British Institute of Innkeeping has launched a responsible drinks retailing qualification for shop floor staff. The exam which can be either written or taken over the phone, will cost £10 and the handbook containing the information covered by the test costs £3.95.

Through its awards body, the organisation plans to ensure that 'servers and retailers of alcohol will have a basic knowledge of the relevant aspects of the Licensing Act 2003 and understand their roles and social responsibilities regarding the retailing of alcohol'.

For further information call 01276 684449.

Super strength beers criticised in UK

UK homeless charity Thames Reach Bondway has called for a new 6% ceiling on the level of alcohol for canned and bottled lagers and ciders, an extra tax on beverages over 6% ABV, and health warnings on these drinks.

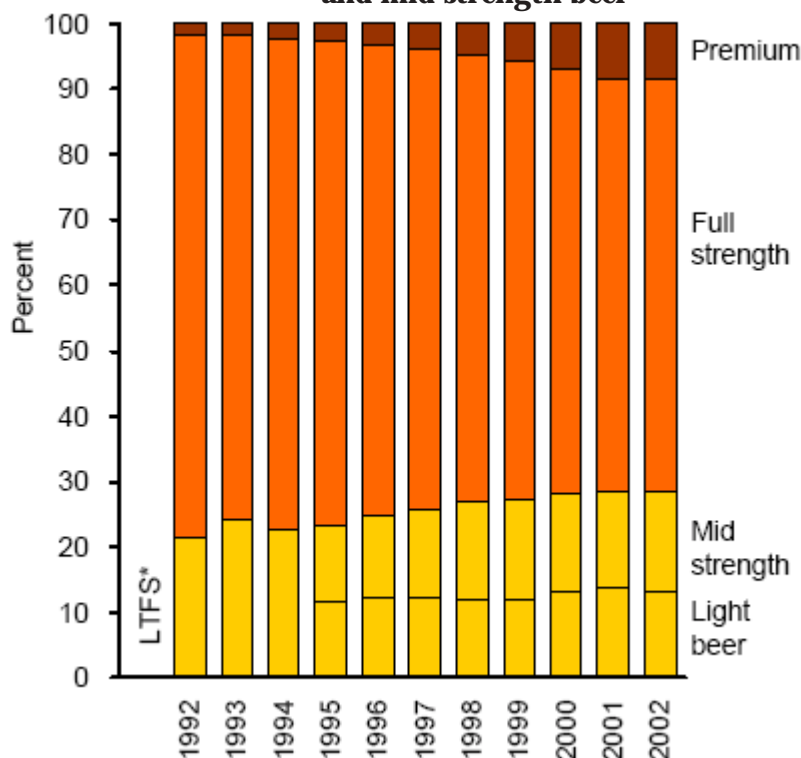
The move follows a series of programmes on BBC television in October which focussed on alcohol-related problems in the UK, including a programme on the drinkers of super strength lagers. The light beer market in the UK is still minimal despite of the launch of products such as Coors C2 last year.

The increasing range and commercial success of lower alcohol beers in some markets is encouraging in developing responsible drinking initiatives and a broader range of lower alcohol alternatives. In Australia, for example, beers with a strength of less than four percent make up 40 percent by volume of the beer market, and there are close to 40 varieties from 0.9 percent to 3.8 percent to choose from.

Heineken USA is releasing its light beer brand across the US in Spring 2006. Confusingly, light beers in the US, which account for more than half of the 10

leading domestic brands and four of the top five in 2004, refer to carb content rather than alcohol levels (which are between 4 and 5%).

Australian beer market - full strength beer is losing ground to low and mid-strength beer



Moderate red wine consumption improves insulin resistance in type 2 diabetic patients

Epidemiological studies have shown that red wine consumption is associated with less cardiovascular mortality in the general population and in the diabetic patients. To determine whether red wine improves insulin resistance in diabetic patients and to explore the relation between insulin sensitivity and endothelial function, researchers studied vascular reactivity and insulin-mediated glucose uptake in 9 type 2 diabetic patients before and after 2 weeks of red wine consumption (360 mL/d, wine-treated diabetics) and 8 type 2 diabetic patients who did not consume wine (control diabetics). Vascular reactivity was evaluated by plethysmography during intraarterial infusion of acetylcholine (Ach), sodium nitroprusside, and L-N-monomethylarginine. Forearm nitrite balance was measured during Ach infusion. Insulin sensitivity was measured by euglycemic hyperinsulinemic clamp at 1 mU/kg

per minute. The basal forearm blood flow and the response to Ach, to sodium nitroprusside, and to L-N-monomethylarginine were unchanged both in the wine-treated and in the control diabetics. In contrast, insulin-mediated whole body glucose disposal improved by 43% after red wine consumption (from 2.79 +/- 0.4 to 4.02 +/- 0.5 mg/kg of lean body mass per minute, P = .02), but did not change in the control group.

In conclusion, red wine consumption for 2 weeks markedly attenuates insulin-resistance in type 2 diabetic patients, without affecting vascular reactivity and nitric oxide production.

Napoli R, Cozzolino D, Guardasole V, Angelini V, Zarra E, Matarazzo M, Cittadini A, Sacca L, Torella R. Red wine consumption improves insulin resistance but not endothelial function in type 2 diabetic patients *Metabolism*. 2005 Mar;54(3):306-13.

Current alcohol use is associated with a reduced risk of hot flashes in midlife women

A study led by C Schilling of the University of Maryland examined the relationship between current alcohol use, estradiol, estrone, and testosterone levels, and hot flashes in midlife women using a case-control study design.

Cases were midlife women (45-54 years) who had experienced hot flashes. Controls were midlife women (45-54 years) who had never experiencing hot flashes. Each participant completed a questionnaire and provided a blood sample that was used to measure estradiol, estrone, and testosterone levels by enzyme-linked immunosorbent assay.

The results indicate that current alcohol use (at least one day per month) was significantly associated with a reduced risk

of hot flashes compared to non-use of alcohol, independent of age and smoking habits. The hot flashes experienced by current alcohol users were less severe and less frequent than those experienced by non-users of alcohol. Further, current alcohol users had similar levels of estradiol, estrone, and testosterone compared to non-users of alcohol.

The data suggests that current alcohol use is associated with a reduced risk of any, severe, and frequent hot flashes in midlife women by a mechanism that may not include changes in sex steroid hormone levels.

Source: Current Alcohol use is associated with a reduced risk of hot flashes in midlife Schilling et al. *Alcohol*.2005; 40: 563-568. <http://alcalc.oxfordjournals.org/cgi/content/full/40/6/563>

Alcohol and colon tumor risk

Dr. Anderson and associates investigated the impact of regular alcohol consumption on colorectal tumors in 2,291 patients undergoing screening colonoscopy. Patients defined as heavy beer or spirits drinkers had more than twice the risk of developing significant colorectal tumors, compared with abstainers or moderate consumers, the authors report. Moderate wine drinkers, also faced about half the risk experienced by abstainers.

Colorectal tumors were also associated with age older than 60 years, smoking and obesity, the report indicates. The investigators note that "patients who regularly drink spirits have an increased risk for significant colorectal (tumors) and perhaps should be targeted for risk modification by their gastroenterologist in addition to their primary care physician."

Anderson added that he and his colleagues are currently comparing the effects of red and white wine. Red wine, "due to high levels of (the natural antioxidant) resveratrol," he added, should be even more protective against colorectal tumors than white wine.

Source: Grimson R et al. Prevalence and Risk of Colorectal Neoplasia in Consumers of Alcohol in a Screening Population. *American Journal of Gastroenterology* 2005;100:2049-55.

Drink Aware Trust not yet approved

Discussions by the Portman Group with the Home Office and Department of Health are still ongoing as to whether The Drink Aware Trust will be an acceptable way forward for the Group to channel expenditure, with a non-industry board, for sensible drinking initiatives and campaigns.

The move follows criticism that the Portman Group has predominantly industry members on its board. And therefore cannot be impartial.

Moderate alcohol consumption can act as a 'blood thinner'

Population studies have shown that moderate drinkers tend to have lower rates of heart disease but higher rates of bleeding-type strokes than abstainers. A potential mediator of these two contrasting effects of alcohol may be platelet function. A recent study published in the October issue of *Alcoholism: Clinical & Experimental Research* confirms that moderate drinking has effects on blood coagulation - primarily as a "blood thinner" - which can have both positive and negative effects.

"The contrasting effects of alcohol are similar to the effects of blood thinners like aspirin, which clearly prevent heart attacks but at the expense of some additional bleeding strokes," said Kenneth J. Mukamal, an internist at Beth Israel Deaconess Medical Center and corresponding author for the study.

"Acting as a blood thinner makes sense, because heart attacks are caused by blood clots that form in clogged arteries, and blood thinners can hasten bleeding from injured arteries. Based on these findings, we speculated that moderate drinking would also act as a blood thinner".

Previous research had shown that moderate drinkers tend to have "less sticky" platelets than abstainers, meaning that fewer blood elements cluster to form blood clots. "Yet no one before had looked at whether alcohol affects how easily platelets are activated,... This is important because activated platelets are much stickier than normal ones." Mukamal said. "

"We found that among both men and women, an intake of three to six drinks per week or more was linked to lower

levels of stickiness measured by aggregability,"

"Among the men, we also found that alcohol intake was linked to lower levels of platelet activation. Together, these findings identify moderate drinking as a potential blood thinner." Mukamal added that the minor differences found between the men and women were more likely due to statistical issues than to any clear gender differences.

"Our findings add to a large body of evidence showing that moderate drinking has effects on blood coagulation, which may have both good and bad effects, but now identify a new avenue by which this effect may occur.."

A reminder about resveratrol by Dr Phil Norrie

One of the main ways the body ages or degenerates is by oxidation, the same process that causes rusting. That is why there is great interest in antioxidants of various types, because antioxidants are naturally occurring substances that retard or slow down this deterioration by oxidation. The standard benchmark antioxidants that humans take are Vitamins C and E, but they only reduce oxidation by up to 20%. Other organic compounds such as amines (nitrogen containing organic compounds derived from ammonia) and phenols (a group of organic compounds which contain hydroxyl or OH attached to a carbon atom in a ring of carbon atoms) also act as antioxidants.

The main antioxidants in wine are epicatechin, quercetin and more importantly the polyphenol resveratrol. These are nature's most potent antioxidants because they can reduce oxidation by up to 100% i.e. stop it altogether as shown by Dr. Frankel at the University of California at Davis in California. They occur mainly in the grape skin to protect it from external diseases such as fungus during a very moist vintage.

The human body uses many complex biochemical pathways and reactions to function; but these reactions result in waste products such as free radicals (molecular compounds that contain an extra unpaired electron). These free radicals are the body's terrorists and cause biological havoc which help contribute to degenerative ongoing diseases such as cancer, dementia, diabetes, vascular disease (heart attack and stroke), macular degeneration (commonest cause of blindness in people over 65) and arthritis. The fermentation process, in making wine, produces alcohol and liberates these antioxidants from the grape skin, which, through our consumption of wine can help block the effect of these free radicals.

Thus there are many times more antioxidants in wine compared to grape juice; plus the alcohol, which also has health benefits if consumed in moderation, resulting in a reduction in the death rate for humans by up to 40% for those who consume wine in moderation daily. It is not surprising then to learn that Resveratrol is the first compound known "that has extended the lifespan of every organism given it"



according to Professor David Sinclair, a Resveratrol researcher at the Harvard Medical School in Boston, Massachusetts.

The best way to treat disease is to not get it in the first place hence the move away from treating disease to preventing disease. The Holy Grail of wine researchers and oenotherapy (wine therapy) is to produce a resveratrol enhanced or enriched wine, without gustative defects, in the hope that it's consumption could enhance wine's already valuable contribution to disease prevention, and heart disease especially.

Phil Norrie is a member of AIM's social, scientific and medical council, a general practitioner in Australia and a winery owner.

An EPR and antioxidant study of some brandies

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Introduction

Following on from a previous study published in AIM on the Electron Paramagnetic Resonance and antioxidant efficiency of Whisky (ref. [1]), it seemed worthwhile to investigate brandies, which certainly belong to the industry, in the same way. After the whisky experience, the EPR spectrum of brandy was expected to show a Cu²⁺ signal from the still, and a free radical signal due to the gallates from the oak casks in which the brandy was aged.

Experiments and results

Initially, two brandies, one made in Australia (A1) and one made in France and bottled in Australia (F1) were obtained. 100ml of each was cold evaporated to 10ml. Individual samples were placed in standard special quartz EPR tubes, internal diameter 2mm (Wilmad). A Bruker X-band (~ 9.4 GHz) EPR spectrometer, operating at ~ 120K was used. The spectrum of each brandy showed both Cu²⁺ and Mn²⁺ spectra. The Cu²⁺ spectrum was expected, as in the whisky

situation, but the Mn²⁺ was not, even though all wines contain Mn. The EPR spectrum of A1 is shown in Fig.1.

An antioxidant efficiency measurement was made on each brandy, using the same system as was used for the whiskies [1]. Vitamin E gave 96%, vitamin A, 74%, brandy F1 88%, and A1, 79%. This is comparable with the whiskies, which ranged from 75% to 99%. All values quoted have an error of plus or minus 3%.

Four more brandies were then obtained: one Australian (A2), and 3 more French ones, one bottled in Australia (FC) and the other two, F2 and FH in France.

All 3 French brandies showed Cu²⁺ signals, but only FC and FH showed Mn²⁺. A2 showed no EPR signal at all! Its antioxidant efficiency was measured as 37%. The expected free radical signal was very difficult to see in all cases where Cu was present, basically because it was small, and because of the structure of the total spectrum.

Discussion

This last result shows that the antioxidant efficiency of the previous brandies is at least partly due to the Cu and Mn present. The undetectability of Mn²⁺ in F2 could simply be due to lack of a sufficiently high Mn content in the original wine or wines from which F2 was distilled. We have no explanation of the total absence of Cu and Mn EPR signals in A2. This is only, therefore, a report of work in progress: clearly, much more needs to be done. However, we *can* say that if a brandy contains amounts of Cu and Mn detectable by EPR, then a shot of it, like a shot of the whiskies examined in [1], will give the equivalent 'antioxidant potential' to the daily recommended intake of vitamin C.

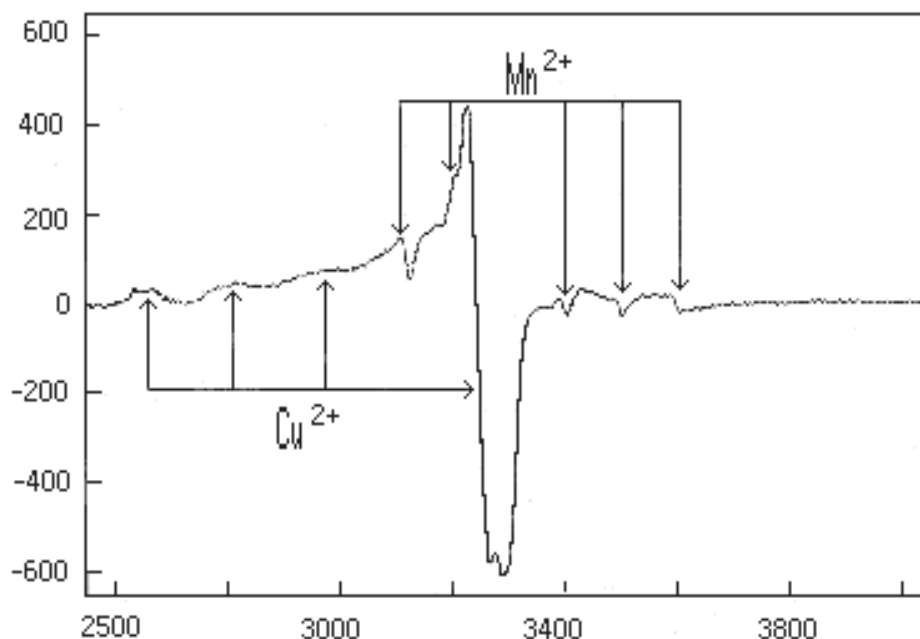
Acknowledgements

Brandies were kindly supplied by Angoves Ltd, Dandenong S.: The Notting Hill Hotel, Notting Hill; and The Clare Castle Hotel, Carlton, all of Victoria, Australia

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Fig.1. EPR spectrum of brandy A1. Horizontal axis: magnetic induction in Gauss. Vertical axis: signal strength in arbitrary units.



Alcohol Retailing and Social
Responsibility -
'Dealing with Britain's
Drink Problem'
Half day conference

The Sheraton Park Lane Hotel
22nd November 2005
for details email
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Alcohol and Cardiovascular Diseases: A Historical Review and 2005 Update

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Keynote Address: VINDABA- International Congress on Health and Wine, South Africa, September 2005

Introduction

Study of the history of a subject seldom fails to provide insights about current knowledge. One important result is recognition of past mistakes, creating the potential for avoiding their repetition. Attempts to generalize and simplify about alcohol and cardiovascular (CV) diseases have slowed progress. Disparities in relations of alcohol drinking to various CV conditions are now clear. A basic disparity between the effects of lighter and heavier drinking always cuts through alcohol-health relations. In this brief overview, the following will be considered: cardiomyopathy, arsenic and cobalt beer drinkers' disease, cardiovascular beri-beri, systemic hypertension (HTN), cardiac arrhythmias, cerebrovascular disease, atherosclerotic coronary heart disease (CHD), and heart failure.

Alcoholic Cardiomyopathy

An apparent relationship between chronic intake of large amounts of alcohol and heart disease was observed by 19th century physicians. Of special note is the term "Munchener bierherz", coined by the German pathologist Bollinger in 1884. He described cardiac dilatation and hypertrophy among Bavarian beer drinkers, who consumed an estimated average of 432 liters of beer per year.

In 1893 Graham Steell reported 25 cases, stating "not only do I recognize alcoholism as one of the causes of muscle failure of the heart but I find it a comparatively common one". In a 1906 textbook, 'The Study of the Pulse', the great William MacKenzie described cases of heart failure attributed to alcohol and first used the term 'alcoholic heart disease'.

The classic description of beri-beri (thiamine deficiency) by Aalsmeer & Wenckebach in 1929 included heart failure. Thus, the concept of 'beri-beri heart disease' dominated thinking about alcohol and the heart for decades. This caused many to doubt that alcohol was

actually cardiotoxic. However, over the past 50 the sheer volume of clinical observations, evidence of decreased myocardial function in heavy chronic drinkers, and a few good controlled studies have now solidly established the existence of alcoholic cardiomyopathy. The landmark report in 1989 of Urbano-Marquez et al. showed a clear relation of lifetime alcohol consumption to structural and functional myocardial and skeletal muscle abnormalities in alcoholics. Importantly, the amounts of alcohol needed were large — the equivalent of > 80 g. alcohol/day for 20 years.

Since the entity is indistinguishable from other forms of dilated cardiomyopathy, the absence of diagnostic tests remains a major impediment to epidemiologic study. Most cases of dilated cardiomyopathy are still of unknown cause. Data supporting a genetic predisposition is now strong; such predisposition is likely to extend to alcohol-induced cardiomyopathy.

Only a small proportion of alcoholics develop cardiomyopathy, a fact leading to interest in other predisposing traits. In this context, it is appropriate to consider the arsenic and cobalt beer drinker episodes and beri-beri heart disease.

Arsenic-Beer and Cobalt-Beer Disease

In 1900 an epidemic (> 6000 cases — > 70 deaths) in and near Manchester, England, proved to be due to accidental arsenic-contamination of beer. The amounts of arsenic involved were considered too small to be the sole cause of problems. In the mid-1960's reports appeared of epidemics of fairly abrupt heart failure among chronic heavy beer drinkers in two US locations, Quebec, Canada, and Belgium. The explanation proved to be the addition of small amounts of cobalt chloride by certain breweries to improve the foaming qualities of beer. The etiology was tracked down largely by Morin & Daniel in Quebec leading to

the condition becoming known as Quebec beer-drinkers cardiomyopathy. Removal of the cobalt additive ended the epidemic in all locations. The cobalt dose was insufficient to be the sole cause, which seemed to be synergistic cobalt/alcohol cardiotoxicity.

Cardiovascular beri-beri

The CV component of beri-beri (thiamine or vitamin B¹, or cocarboxylase deficiency) is high-output heart failure resulting from decreased peripheral vascular resistance. After the condition became known, many assumed that heart failure among heavy alcohol drinkers was due to associated nutritional deficiency states. Most patients clearly did not fit, however; they had low output heart failure, were well-nourished, and responded poorly to thiamine. In beri-beri generalized peripheral arteriolar dilatation creates a large arteriovenous shunt and high resting cardiac outputs. Existence of "chronic cardiovascular beriberi" has never been established.

Hypertension (HTN)

Lian reported in 1916 a threshold relationship between heavy drinking and HTN in WW1 middle-aged French servicemen. There was an almost 60 year lapse before further attention was paid to this subject. Starting in the mid 1970s, dozens of cross-sectional and prospective epidemiologic studies have solidly established an empiric alcohol-HTN link. The apparent threshold amount of drinking associated with higher blood pressure is approximately 3 drinks/day. Most studies show no increased HTN with lighter drinking; several show an unexplained J-shaped curve in women with lowest pressures in lighter drinkers. There seems to be independence from adiposity, salt intake, education, smoking, beverage type (wine, liquor, or beer), and several other potential confounders.

Clinical experiments have shown that several days to weeks of drinking or abstinence result in higher or lower

pressures, respectively. Other interventional studies have shown that heavier alcohol intake interferes with drug treatment of HTN and that moderation or avoidance of alcohol supplements or betters other nonpharmacologic interventions such as weight reduction, exercise, or sodium restriction. Even in the absence of an established mechanism, the intervention studies strongly support a causal hypothesis.

Arrhythmias

Association of heavy alcohol consumption with atrial arrhythmias (the "holiday heart" phenomenon) has been observed for decades. Atrial fibrillation is the commonest manifestation. The problem typically resolves with abstinence. A Kaiser Permanente study compared atrial arrhythmias in 1,322 persons reporting > 6 drinks per day to arrhythmias in 2,644 matched light drinkers, showing a doubled relative risk. It is unresolved whether cardiotoxicity, adrenergic discharge, or other mechanisms are involved.

Stroke

Studies of alcohol and stroke are greatly complicated by disparate relationships of both stroke and alcohol to other cardiovascular conditions. There is some consensus that heavier drinkers are at higher risk of hemorrhagic stroke, but the role of lighter drinking in hemorrhagic stroke is unclear. There are several studies which suggest that light-moderate alcohol drinking is related to reduced risk of ischemic stroke.

Coronary Heart Disease (CHD)

Heberden's classic description of angina pectoris in 1786 included "Wine and spirituous liquors--afford considerable relief". This observation led to the erroneous belief that alcohol is an immediate coronary vasodilator. Symptomatic benefit appears to be subjective and likely to be dangerously misleading in patients with angina. In the first half of the 20th century, several pathologists noted an apparent inverse relationship between alcohol consumption and atherosclerotic disease, including CHD. Since 1974 a number of population and case-control studies have solidly established an inverse relation between alcohol drinking and

either fatal or nonfatal CHD. This inverse relation is present in persons with and without pre-existing CHD, diabetes, and HTN. A substantial body of data support the existence of plausible protective mechanisms against CHD by alcohol have also appeared. Thus, it now seems likely that alcohol drinking protects against CHD.

In 1819 Dr. Samuel Black, an Irish physician with a great interest in angina pectoris and of considerable perception with respect to epidemiologic aspects, wrote what is probably the first commentary pertinent to the "French Paradox". He noted much angina in Ireland, but lack of discussion of the condition by French physicians, whom he greatly respected. He attributed the low angina prevalence in France to "the French habits and modes of living, coinciding with the benignity of their climate and the peculiar character of their moral affections". It was to be 160 years before data were presented from the first international comparison study to suggest less CHD in wine drinking countries than in beer or liquor drinking countries. There are now several confirmatory international comparison studies as well as reports of nonalcoholic antioxidant phenolic compounds or antithrombotic substances in wine, especially red wine. However, prospective population studies show no consensus about the wine/liquor/beer issue, which remains unresolved at this time.

Heart Failure (HF)

Since sustained heavy alcohol drinking can cause myocardial damage, there has been concern that light-moderate drinking (< 2 standard-sized drinks per day) might be harmful to persons with heart disease. CHD is the most common cause of the HF syndrome in developed countries. A recent publication from Kaiser Permanente report presented prospective data about the role of alcohol drinking in relation to risk of hospitalization for HF with separate analyses for persons with HF associated with CHD (n = 1559) and for persons with HF not associated with CHD (n = 1035). Only heavier drinking (> 3 drinks/day), but not light-moderate drinking, was related increased risk of non-CHD associated HF. In fact, in

diabetics light-moderate drinking was related to lower risk of non-CHD-associated HF. In this study, alcohol drinking had a robust inverse relation to risk of CHD-associated HF.

Should Persons with Heart Disease Drink alcohol?

Attempts to define a safe limit are hardly new, since the medical risks of heavier drinking and the relative safety of lighter drinking have long been evident. Considerations of age, sex, and individual risks and benefits become the foci of any discussion in which a health practitioner advises his or her client about alcohol drinking. For many patients with CV conditions, light-moderate alcohol intake may be not only safe, but beneficial.

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Risk Factors for Fetal Alcohol Syndrome

Using a population-based sample in the Western Cape Province of South Africa (an area with extremely high Fetal Alcohol Syndrome (FAS) rates), researchers compared mothers of first graders born with FAS (cases; n= 53) with mothers of first graders without FAS (controls; n= 116) in order to identify risk factors for FAS.

Cases were significantly more likely than controls to live in a rural area during their index pregnancy, work on a farm, have a greater number of children, and have a lower income and educational attainment. They were significantly less likely to be married while pregnant and to participate in religious activities. Cases drank for more years (13 versus 4) and had greater current use (13 versus 1 drink per week; binge drinking* among 70% versus 6%).

During pregnancy, over 85% of cases consumed the same or more than their current levels. Over 84% of controls drank less than their current levels. Immediate family members of cases drank significantly more than did the immediate family of controls (63 drinks per month for fathers of cases versus 32 drinks for fathers of controls). Cases were also more likely to have smoked during pregnancy (76% versus 27% during the third trimester).

This study confirms that the range of maternal risk factors associated with FAS is broad. Clearly, maternal alcohol consumption is the key risk factor for FAS; how other factors increase risk is less clear. Nonetheless, clinicians should consider and address all of these factors during prenatal assessments.

*> = 3 drinks on > = 1 days in the past week

Reference: May PA, Gossage P, Brooke LE, et al. Maternal risk factors for fetal alcohol syndrome in the Western Cape Province of South Africa: a population-based study. *Am J Public Health*. 2005;95(7):1190-1199.

WHO Resolution: Framework for Alcohol Policy in the WHO European Region

At the annual session of the WHO Regional Committee for Europe, held in Bucharest, Romania in September, representatives of the Region's 52 Member States expressed their common concerns and proposed solutions on several public health issues. Specifically, the committee adopted nine resolutions including one to "fight the harmful use of alcohol."

The WHO press release states, "Recognizing that the Region has the highest alcohol consumption and the highest burden of alcohol-related disease in the world, the Committee adopted a framework strategy for Region-wide action on the problem". The Framework Resolution is based on prior resolutions dating back as far as 1995 and explains, "Recognizing that the harm done by alcohol is a pan-European problem with serious consequences for

public health and human and social welfare affecting individuals, families, communities and society as a whole, that calls for increased international cooperation and the participation of all Member-States in a cost-effective, appropriate and comprehensive response which takes due consideration of religious and cultural diversities;...."

It is hoped that the ongoing review by WHO will consider both health and social issues related research facts on moderate versus abusive drinking as well as the many effective alcohol education initiatives being undertaken in many parts around the world. Representatives of the alcohol industry have been asked to attend a meeting with WHO in March 2006 .

For more information, visit http://www.euro.who.int/eprise/main/WHO/MediaCentre/PR/2005/20050915_1

Can adequate folate consumption mitigate the risk of excessive alcohol consumption in breast cancer? by Creina S. Stockley

A recent prospective cohort study undertaken in Melbourne, Australia by Baglietto et al. (2005) concludes that an adequate dietary intake of folate might protect against the increased risk of breast cancer associated with alcohol consumption. Compared with lifetime abstainers, the hazard ratio (risk) for breast cancer in women who regularly consumed an average of 40 g or more of alcohol per day at baseline was observed to be 1.41 and when women also consumed 200 µg of folate per day the hazard ratio was 2.00 but was 0.77 when women also consumed 400 µg of folate per day.

1. A role for folate in breast cancer

Folate is involved in the synthesis, repair, and methylation (functioning) of DNA, our genetic map. A deficiency of folate may result in damage to DNA that may lead to cancer (Mulinare et al. 1988), through interference with DNA synthesis and through depletion of labile methyl groups used in biological methylation reactions. Indeed, folate, as 5-methyltetrahydrofolate, has a key role in methyl metabolism. It supplies a methyl group to convert homocysteine to methionine, that is then converted to S-adenosyl-methionine, which is the common methyl donor used in biological methylation reactions. For example, DNA hypomethylation or the reduced methylation of DNA due to folate deficiency can contribute to the loss of the normal control or regulation of proto-oncogene expression (Hoffman 1984). A proto-oncogene is a protein whose normal cellular gene can be converted into a cancer-promoting oncogene by mutation that has abnormal activity and/or is expressed at abnormal levels. This leads to cell death or gives rise to cancer. Folate deficiency has also been associated with single and double DNA strand breaks.

Several studies have associated diets low in folate with increased risk of breast, pancreatic, and colon cancer (Gloria et al. 1997, Duthie et al. 2000, Hussien et al. 2005). Conversely, an adequate consumption of folate may

reduce the risk of breast cancer (Shrubsole et al. 2001), and research results from a study of over 121,000 nurses suggests that long-term folic acid supplementation (for 15 years) is associated with a decreased risk of colon cancer in women 55 to 69 years of age (Christensen 1996). Indeed, in animal models, folate supplementation reduces DNA strand breaks in the *p53* gene (Kim et al. 2000); the P53 protein regulates the cell cycle to prevent genome mutation, and hence functions to suppress tumors. It can activate DNA repair proteins when it recognizes damaged DNA, hold the cell cycle at the G₁/S regulation point on DNA damage recognition to prevent uncontrolled cell division and can initiate apoptosis, the programmed cell death, if the DNA damage proves to be irreparable. Cancer occurs when the rate of proliferation of mutated cells greatly exceeds the rate of apoptosis. In breast cancer, the gene has been observed to be mutated in 15 to 50% of tumors (Olivier and Hainaut 2001). Furthermore, when tumor receptor status for estrogen is considered, folate deficiency may be associated primarily with estrogen receptor negative (ER-) breast cancer tumours (Zhu and Williams 1998, Zhang et al. 2005).

2. A role for alcohol in breast cancer

Alcohol was first identified as a risk factor for breast cancer in 1977, and the international data has been relatively consistent that there is a dose-response effect. From pooled analysis of data, the relative risk increase by 1.09 for each 10 g alcohol (equivalent to one standard drink) consumed per day up to 60 g, such that consumption above 60 g per day is not associated with a further increased risk (Smith-Warner *et al.* 1998). The association between alcohol consumption and breast cancer is not modified by other risk factors, and the consumption of alcohol appears additive to other risk factors. The underlying mechanisms have not been conclusively established but may include the influence of alcohol on the circulating concentration of estrogens

such that an elevated concentration of estradiol increases the risk of breast cancer approximately five-fold (Dorgan 1994), and from human breast cancer cell lines, alcohol is observed to selectively stimulate positive estrogen receptors (ER+). There is accumulating data that the primary metabolite of alcohol, acetaldehyde, is predominantly responsible for alcohol-associated carcinogenesis. Acetaldehyde is directly carcinogenic and mutagenic interfering with both DNA synthesis and repair. It also binds to cellular proteins and DNA forming stable protein and DNA adducts, which result in physical and functional impairment of the cell and consequently in an immunological cascade reaction, and in the occurrence of replication errors and/or mutations in oncogenes or tumor suppressor genes (Dellarco 1988, Fang and Vaca 1995, Nakamura et al. 2003). Acetaldehyde also degrades folate in the colon.

Other mechanisms by which alcohol may induce carcinogenesis include the induction of cytochrome P-450E1, which is associated with an increased production of reactive oxygen species that are associated with DNA damage including single and double strand breakage (Wright et al. 1999, Koch et al. 2004), where breast tissue tumors contain an approximate nine-fold higher concentration of these DNA modifications (Li et al. 1999). Induction of cytochrome P-450E1 by alcohol is also associated with an increased activation of certain dietary and environmental carcinogens. Alcohol may additionally influence alterations in cell cycle behaviour such as cell cycle duration leading to the hyperproliferation of mutated cells, that is, uncontrolled cell division; nutritional deficiencies, such as methyl-, vitamin E-, folate-, pyridoxal phosphate-, zinc- and selenium deficiencies; and alterations of the immune system eventually resulting in an increased susceptibility to certain virus infections such as hepatitis B virus and hepatitis C virus (Poschl and Seitz 2004).

3. Effect of alcohol consumption on folate bioavailability

The effects of folate deficiency are aggravated by an excessive or high consumption of alcohol (Su and Arab 2001), probably because acetaldehyde, the primary metabolite of alcohol, degrades folate in the colon (Homann et al. 2000). For example, when acetaldehyde is subsequently oxidised by xanthine oxidase to acetate, the reactive oxygen species generated cleave folate into biochemically inactive metabolites (Shaw et al. 1989). Indeed, folate deficiency is a common clinical sign of chronic alcohol consumption (Wu et al. 1975). High alcohol consumption has also been observed to reduce the intestinal absorption and hence bioavailability of folate (Halsted et al. 1971) as well as reduce the renal tubular reabsorption of folate thus increasing its urinary excretion (Russell et al. 1983). Consequently, high consumption of alcohol when combined with inadequate consumption of folate has been observed to increase the risk of colorectal adenomas and carcinomas (Giovannucci et al. 1995, Boutron-Ruault et al. 1996) and breast cancer in postmenopausal women (Sellers et al. 2001).

4. Potential interaction between alcohol and folate in breast cancer

Diet and lifestyle, type of breast tumour, stage of disease and genetic polymorphism have, however, been identified as potential modifiers of alcohol's risk. Studies by Zhang et al. (1999, 2005), Rohan et al. (2000) and Sellers et al. (2001), all suggest that

adequate folate consumption may protect against the increased risk of breast cancer associated with alcohol consumption. For example, folate is involved in DNA synthesis and methylation influencing gene expression, while alcohol is a folate antagonist, interfering with DNA synthesis and repair. The concurrent use of alcohol and folate (at least 300 mg/day) has been observed to reduce the relative risk of alcohol-induced breast cancer to 1.05 for women consuming greater than 15 g alcohol/day or one and a half standard drinks, but was only 0.55 for women consuming greater than 600 mg/day of folate. Indeed, the concurrent use of folate-containing vitamin supplements reduces the relative risk to 0.74 for women consuming greater than 15 g alcohol/day compared to those not using vitamins (Zhang et al. 1999). One recent study has considered tumor receptor status for estrogen when researching the interaction between alcohol and folate. The interaction has been observed to be primarily limited to estrogen receptor negative (ER-) breast cancer tumors (Sellers et al. 2002), which is consistent with an interaction of alcohol and folate on breast tissue tumors being mainly through the primary metabolite of alcohol, acetaldehyde, which is directly carcinogenic as well as indirectly carcinogenic via folate depletion, independent of circulating estrogens and estrogen receptor mediated events.

5. Conclusion

In conclusion, there is emerging epidemiological evidence, which is supported by *in vitro* and *in vivo* evidence, that supplementation of the diet with folate while consuming excessive or high amounts of alcohol may reduce the risk of breast cancer (Tjonneland et al. 2005).

This information has important public health implications given that approximately 8.5% of Australian women consumers aged from 18 years of age, for example, reportedly regularly consume alcohol in excess (National Health Survey 2001), and it has been proposed that at approximately 4% of breast cancers in developed countries are attributable to alcohol (Collaborative Group on Hormonal Factors in Breast Cancer 2002).

Furthermore, it has been suggested that supplemental folic acid in foodstuffs such as bread, might negate the anti-folate effects of alcohol, which increases the risk of breast cancer; indeed supplementation of bread flour with thiamine in Australia has significantly reduced the risk of Wernicke Korsakoff syndrome in alcohol dependent consumers (Harper et al. 1998).

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A full set of references will be published on the AIM gateway next month, or contact alison.rees@aim-digest.com

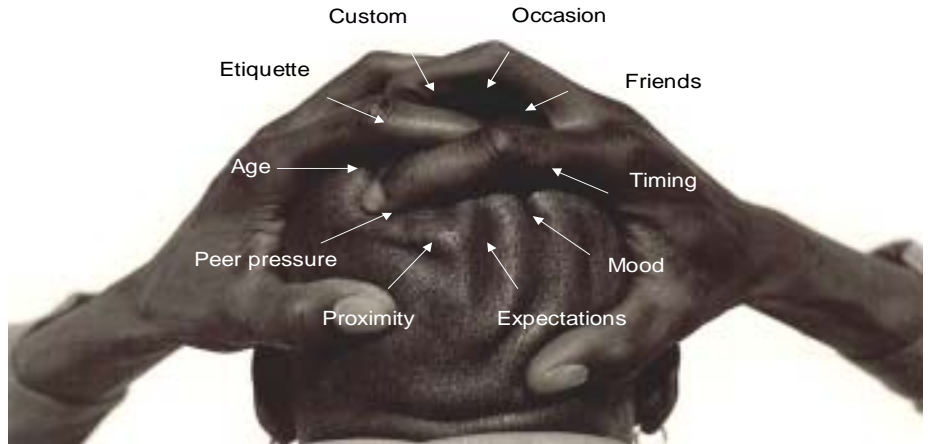
WARC Conference - Can alcoholic drinks be marketed responsibly?

In September, the World Advertising Research Centre hosted a conference looking at the products, placement and marketing of alcoholic drinks in the UK. Several speakers encompassed the theme of responsible marketing being good for business.

Peter Brown of Storm Lantern in 'a sober look at binge drinking' presented the findings on how different cultures drink across Europe. He concluded that binge drinking is not linked to the availability of alcohol, but is a deeply cultural behaviour. Italy, Spain and France have alcohol available late at night (24 hour drinking debate), but the anti-social behaviour synonymous with the UK concept of binge drinking does not exist. Brown argues that the same amount of alcohol may be drunk – binge drinking is not the same as anti-social behaviour, which he argues is a particular anglo-saxon obsession.

Storm Lantern draws on the Southern European culture of sitting down, drinking slower and often eating. A middle state of 'merriness' is sought rather than oblivion, which Brown suggest we call 'buzzed', these cultures remain in control. 'Alcohol is not a stimulant but an inhibitor of inhibitions' according to Desmond Morris. The UK youth believes society expects them to binge 'If people expect us to be irresponsible, we may as well be' (anthropologist Professor Dwight Heath), hence

A myriad of obstacles influence choice.
Hard for marketing to cut through



groups of drinkers live up to a widely held perception whereas most people's objectives in drinking is to be sociable and unwind.

Brown concluded that the trade still has a lot to do in cracking down on premises who promote irresponsibly, in spite of the BBPA responsible promoting guidelines. He commented that there is still much to do in making pubs and clubs more pleasant places to be, for example regarding noise control and extended seating. However, he argued that the industry must also fight for an accurate portrayal of Friday and Saturday night out which is not all no go zones, 24 hour drinking scares etc.

Martin Dinkele of Cardinal responded to the call for a better drinking environment by talking about the

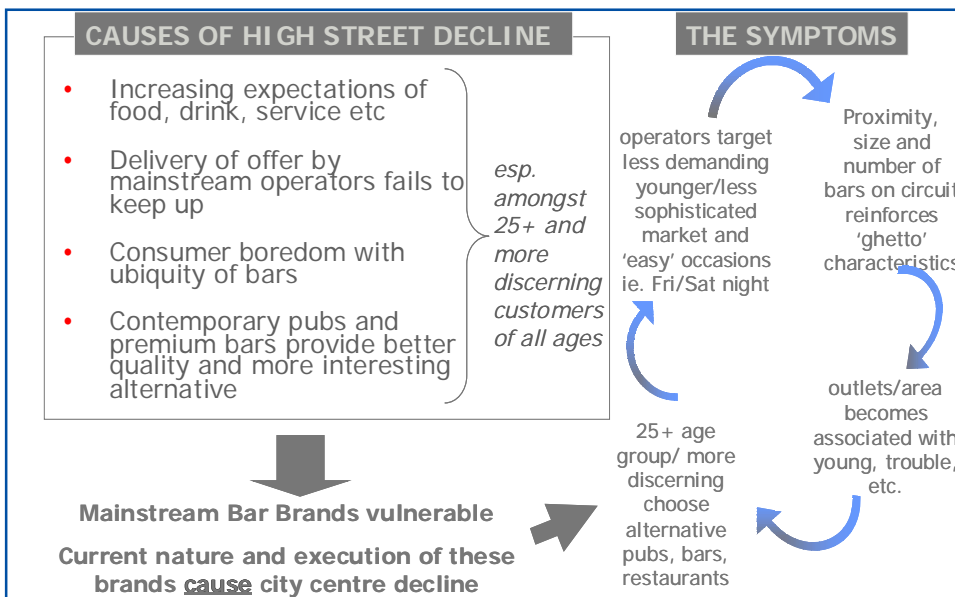
evolving on trade. He confirmed that the public itself has moved a way from barn like 'vertical drinking' noisy bars. He too, believes consumers adapt their behaviour to the outlet environment and that the consumer is already seeking out a more sophisticated food and drink offer. The trend to drink, eat and socialise continues to grow and increases the pressure for a more stimulating environment – consumers no longer want vertical drinking pubs – in particular the over 25's want gastro pubs. (see slide below)

Dinkele concludes that we are getting a better mix of environment naturally, from the bottom up, everything moves in cycles and the UK is moving in a civilised direction.

Influences on what, when and how we drink.

The Bar, Entertainment and Dance Association and CGA Centro reported on the research of 2,300 Radio Galaxy listeners 'big night out' 62% were aged 18-24 and 96% drank alcohol (40% smoked). There are 9000 venues which cater for the 18 – 35 year olds, with a capacity of 3 million, already 58% of them serve alcohol after 11pm.

Nicola Jordan of ID Live Brand Experience claims 87% of consumers want to interact with a brand rather than be 'told' about it, this is a human trait we need to build into our responsibility messaging.



Amsterdam Group Forum - Alcohol education – what works?

The Brussels-based Amsterdam Group held a conference in October exploring the different themes of alcohol education and its effectiveness in Europe.

Helmut Wagner, TAG Director, called on the European Commission to give education “the weight it deserves” within a European strategy to reduce alcohol-related harm. The Group also recommends that targeted initiatives be delivered on the ground, at national or community level. **“We are convinced that the combination of the carrot and the stick - education and the strict enforcement of legislation - is a very powerful combination in our fight against alcohol related harm.”**

The forum brought together a diverse group of stakeholders to present on the role of education in the fight against alcohol-related harm in the light of the anticipated European Commission Recommendation on Alcohol and Young People Report. The European Commission, due to the diverse priorities and cultures of Europe, has been unable to achieve agreement on a proposal for drink driving after 13 years of discussion and the EU's Draft Strategy has been on the drawing board since 2002.

Philippe Brunet, Deputy Head of Cabinet of Commissioner Markos Kyprianou (Health and Consumer Protection) set out a logical framework for policy based on consultation, a better evidence base of research, with young people and reducing drink drive as priorities.

He confirmed that while, **“education cannot replace an efficient regulatory framework, it is an important tool. Regulation clarifies the roles and obligations of all partners”**. Brunet explained the dilemma of being pulled in one direction by the industry desiring a free and unregulated market in which to produce, promote and sell their products responsibly and in a different direction by public health bodies, who have a role to protect the public demanding more regulation, restriction and control. The balance lies somewhere between the two, **“there are many keys on a piano, and it a question of finding the right notes to play to produce the best tune”** commented

Brunet. NGO's play down the importance of education believing high tax, regulation and restricted access to alcohol are more effective – a position polarised from the alcohol industry. To be effective a tool box is needed involving peer, family and school programmes mixed with policy, self regulation and voluntary commitment.

Erna Hennicot Schoepges, MEP with responsibility for education spoke of alcohol's role in Europe's religion and history, with drunkenness being recognised from Biblical times. She felt however, that some new product developments, particularly ‘alcopops’ were aimed at young people being excessively sweet and easy to drink. She called for clearer and more rigorous labelling, enforcement of proof of age and more parental involvement with the young taking personal responsibility.

With Britain as President of the European Commission, Crispin Acton, programme Manager for the UK Ministry of Health on substance misuse explained the UK Alcohol Harm Reduction Strategy for England, released in 2004.

Acton started with the basic premise that 90% of adults drink in Britain (4.7 million don't drink at all) and that ‘a majority do so with no problems the majority of the time’ –with half of the population drinking less than the government guidelines. He acknowledged the key role of alcohol in British society, leisure and tourist industry. However, trends in the late 20th century, especially in young women's drinking (20% exceed weekly benchmarks, up from 10% in 1988) have led to concern and a need for action in the UK. An estimated 1.8 million adults are drinking at harmful levels according to Crispin (7% of men and 3% of women). The government estimates that alcohol accounts for almost 10% of the UK disease burden, exceeded only by tobacco and blood pressure and that alcohol is implicated in 150,000 hospitalisations a year.

The UK Alcohol Harm Reduction Plan encompasses 41 actions across departments involving education, identification and treatment of dependence, tackling crime and disorder

and ensuring industry responsibility. The Department of Health is committed to making the sensible drinking message simpler and to developing effective messages for binge drinkers. Health professionals will be better trained to recognise alcohol problems and alcohol will be built into the medical curriculum. Other initiatives include the evaluation of the effectiveness of treatment and models of care for the alcohol treatment services. A comprehensive survey of G.P's and their effectiveness in recognising and referring patients with alcohol problems has been analysed by the ANARP project and a national survey of alcohol treatment services carried out, it's findings have just been released.

Jaime Gil-Robles of Fundacion Alcohol y Sociedad spoke of his association's work with the ALBA project in Spain. In contrast to the growing trend of drinking at home in the UK, 70% of alcohol is sold in the on trade in Spain and 95% consume alcohol moderately in the ‘Mediterranean tradition’. The role of the ALBA project is to delay the age of alcohol consumption, to reduce the number of young consumers and the amount they drink. ALBA evaluates 16,500 students a year and collaborates at regional level to offer free courses in private and public venues in Spain. Specially trained staff are used rather than ‘overburdened’ teachers and separate packs have been developed for parents. Gil-Robles claims, through assessment, that students partaking in the programme reduce their consumption - 78% ‘are more careful’ in their consumption with 33% sharing information with their friends.

Professor Moira Plant and Alexis Capitant of Entreprise et Prevention reported on the lack of education surrounding fetal alcohol syndrome and the effects of alcohol during pregnancy in the UK and France. Professor Plant acknowledged that the statistics relating to FAS occurrence in the UK population is unknown but it is related to poverty, poly drug use, psychiatric concerns and poor nutrition and health. It is believed to occur in 1% of live births in the US and it is known that a sibling to child suffering from FAS is at

75% risk of being born with FAS. On a safe threshold for drinking during pregnancy, Plant cast doubt on the premise that if heavy drinking caused severe damage then lighter drinking would cause similar damage less severely 'recently this diagnosis has been dismissed as it is unhelpful and leads to inaccurate reporting'. FAS is a life long syndrome, leading to cognitive and behavioural deficits - infant IQ can continue to decline at adolescence into adulthood although facial features become less obvious with maturity. In France, FAS is believed to affect 1% of live births (.5% very seriously), with high pockets of sufferers in Pas de Calais, Brittany and the Reunion islands. There was no public health information on FAS prior to 2004 and medical staff had little knowledge to recognise symptoms or parents at risk. As a result, there has been a sudden reaction, following a MP from the Reunion Islands proposal to have health warnings on alcohol for pregnant women in France. E&P has set up a complementary prevention programme to health workers with videos and leaflets. A second initiatives will promote dialogue with gynaecologists, guides for medical staff and leaflets for waiting rooms.

Jean Paul Repussard, Principal administrator of the EC DG TREN gave an excellent assessment of the effectiveness of drink drive campaigns in the EU, with particular emphasis on a new campaign in France developed by young people. Road safety continues to be a major issue in Europe with 43,000

Some facts and figures

Better drink-driving management could prevent up to 10,000 deaths per year.

Alcohol is a major contributor to the death of young people. One in four deaths of men aged 15 to 29 is alcohol related. In parts of Eastern Europe, it is one in three.

The World Health Organization (WHO) reports alcohol consumption was associated with 531,000 deaths (5.5% of the total) in 2000.

WHO's Global Burden of Disease Study concluded that alcohol is the third most serious cause of premature death in the European region.

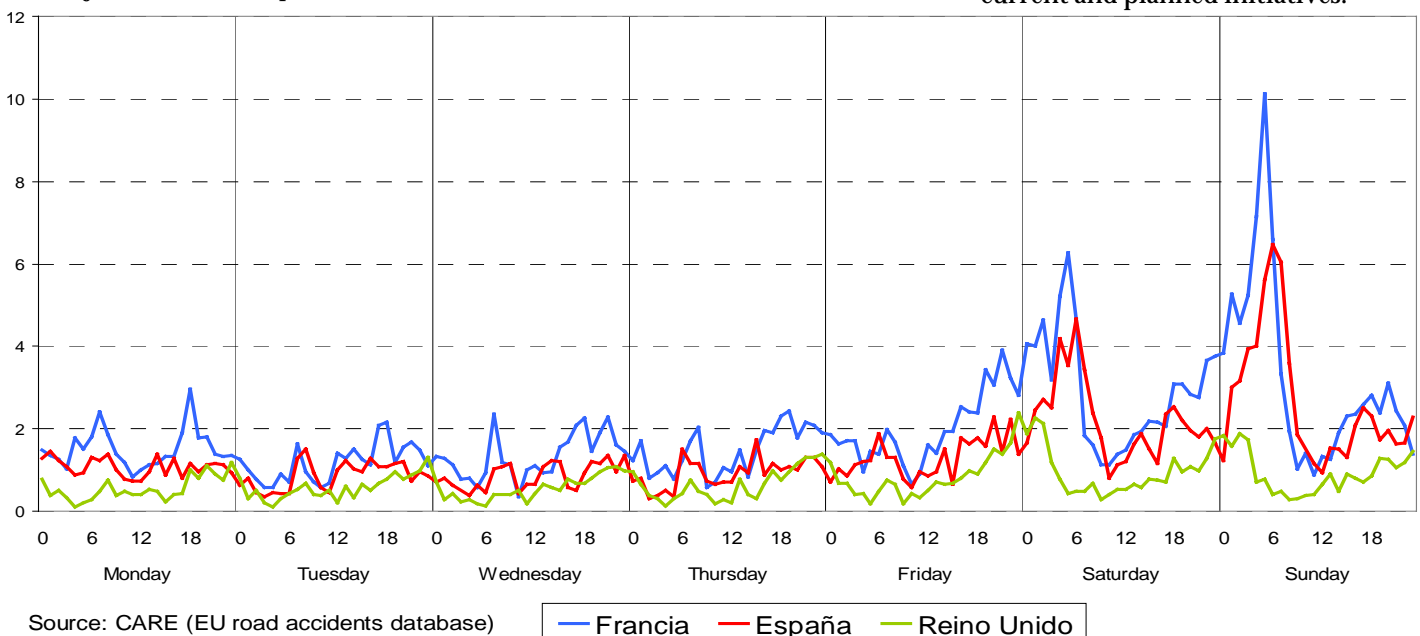
fatalities and more than 2 million injuries a year. It is estimated that 25% of the accidents involve drink driving. Importantly, what Repussard describes as 'Saturday night fever' involves the death of 2000 18 -25 year olds a year. (see below) . Despite the UK's reputation as the weekend binge capital of Europe, Repussard praised UK's low weekend death rate - France and Spain have the joint highest figures, but they are dropping rapidly. The EC is committed to enforcement e.g. road site checks, blood analysis and sanctions as well as technical solutions such as alcohol locks. Repussard would like more harmonisation of BAC levels across Europe, with lower levels for novice drivers, heavy goods drivers and public transport drivers for example. The programme aims to halve the number of victims killed on the roads by 2010 and projects such as CAST, DRUID and EUROBOB were explained. Thirteen years of discussion on drink drive recommendations have failed to provide agreement on a directive but many projects are underway.

Armand Hennon, Director of Public Affairs at Pernod Ricard spoke of the

company's specific project implementing a road safety policy within its company. The move came following high deaths on the road in France (7242 in 2002 against 3581 in the UK) this has dropped impressively to 5232 in 2004, but still 13% of the French population is aged 15 -24 yet 27% of those killed on the road are in that age group. Alcohol is implicated in 31% of the figures.

Pernod's pioneering lead with zero tolerance of mobile phone use while driving, no speeding, compulsory seat belts and no drinking if driving with incentives and prizes led to a dramatic drop in car accidents, outweighing the cost of the programme. The programme has also resulted in a 12% reduction in insurance premiums for the company. Pernod plans to expand the programme to China, Greece, Spain and Ireland.

The mix of speakers added clarity to a complex scenario of messages which need to be conveyed more effectively to a complex range of consumers regarding alcohol and driving, pregnancy, young people and dependency. It was encouraging to see such a number of current and planned initiatives.



AIM was established in 1991 to communicate about sensible drinking and health. AIM has worldwide support from all sectors of the beverage alcohol industry.

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AIM – Alcohol in Moderation was founded in 1991 as an independent organisation whose role is to communicate ‘The Sensible Drinking Message’ and to act as a conduit for information from the industry, its associations and relevant medical and scientific researchers, legislation, policy and campaigns.

AIM Mission Statement

- To promote the sensible and responsible consumption of alcohol
- To encourage informed debate on alcohol issues
- To communicate and publicise relevant medical and scientific research in a clear and concise format via AIM Digest and the AIM Research Highlights
- To publish information via the ‘AIM Gateway to Sensible Drinking and Health’ website containing a unique archive of research on moderate drinking and health – comprehensively indexed and fully searchable
- To publish information to the consumer on sensible drinking and health via the ‘Drinking and You’ website based on national government guidelines with sections for the UK, USA, Canada, Spain, France Sweden and Germany
- To distribute AIM Digest without charge to the media, legislators and researchers involved in alcohol affairs
- To direct enquiries from the media and others towards full and accurate sources of information.

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NIAAA Releases Revised Guide for Healthcare Practitioners

by Elisabeth Holmgren

The National Institute on Alcohol Abuse and Alcoholism (NIAAA) in the USA has taken the lead in educating health professionals about alcohol through a Guide— *Helping Patients who Drink Too Much*—which was first published in 2003, and now has simpler screening methods, additional assessment strategies and a new Q&A section. The Guide has been produced by the NIAAA with guidance from physicians, nurses, advanced practice nurses, physician assistants, and clinical researchers. Under the Q&A section several important messages are provided regarding moderation and how to follow the most sensible drinking behaviour.

The Guide addresses the following questions-

How much is “too much”?

The guide emphasizes that drinking becomes too much when it causes or elevates the risk for alcohol-related problems or complicates the management of other health problems. Men who drink 5 or more standard drinks in a day (or 15 or more per week) and women who drink 4 or more in a day (or 8 or more per week) are at increased risk for alcohol-related problems, according to epidemiologic research.








What Is a Standard Drink?

A standard drink is any drink that contains about 14 grams of pure alcohol (about 0.6 fluid ounces or 1.2 tablespoons). Above are standard drink equivalents for the USA. These are approximate, as different brands and types of beverages vary in their actual content.

When should ‘healthcare providers’ recommend abstaining versus cutting down?

It is explained that certain conditions warrant advice to abstain as opposed to cutting down. These include when drinkers:

- Ø are or may become pregnant,
- Ø are taking a contraindicated medication

12 oz. of beer or cooler	8-9 oz. of malt liquor 8.5 oz. shown in a 12-oz. glass that, if full, would hold about 1.5 standard drinks of malt liquor	5 oz. of table wine	3-4 oz. of fortified wine (such as sherry or port) 3.5 oz. shown	2-3 oz. of cordial, liqueur, or aperitif 2.5 oz. shown	1.5 oz. of brandy (a single jigger)	1.5 oz. of spirits (a single jigger of 80-proof gin, vodka, whiskey, etc.) Shown straight and in a highball glass with ice to show level before adding mixer*
						
12 oz.	8.5 oz.	5 oz.	3.5 oz.	2.5 oz.	1.5 oz.	1.5 oz.

- Ø have a medical or psychiatric disorder caused or exacerbated by drinking, or
- Ø have an alcohol use disorder.

If patients with alcohol use disorders are unwilling to commit to abstinence, they may be willing to cut down on their drinking. This should be encouraged while noting that abstinence, the safest strategy, has a greater chance of long-term success.

For heavy drinkers who do not have an alcohol use disorder, use professional judgment to determine whether cutting down or abstaining is more appropriate, based on factors such as these:

- Ø a family history of alcohol problems
- Ø advanced age
- Ø injuries related to drinking
- Ø symptoms such as sleep disorders or sexual dysfunction

It may be useful to discuss different options, such as cutting down to recommended limits or abstaining completely for perhaps 2 months, then reconsidering future drinking. If cutting down is the initial strategy but the patient is unable to stay within limits, recommend abstinence.

What Are the US Adult Drinking Patterns?

Health care providers are encouraged to use this table with their patients to underscore the importance of moderation for those who choose to

drink. They specifically explain the following:

Nearly 3 in 10 US adults engage in at-risk drinking patterns and thus would benefit from advice to cut down or a referral for further evaluation. During a brief intervention, practitioners are advised to use the chart to show that (1) most people abstain or drink within the recommended limits and (2) the prevalence of alcohol use disorders rises with heavier drinking.

How do I factor the potential benefits of moderate drinking into my advice to patients who drink rarely or not at all?




Moderate consumption of alcohol (defined by US Dietary Guidelines as up to two drinks a day for men and one for women) has been associated with a reduced risk of coronary heart disease. Achieving a balance between the risks and benefits of alcohol consumption remains difficult, however, because each person has a different susceptibility to diseases potentially caused or prevented by alcohol. The advice to a young person with a family history of alcoholism, for example, would differ from the advice given to a middle-aged patient with a family history of premature heart disease. Most experts do not recommend advising nondrinking patients to begin drinking to reduce their cardiovascular risk. However, if a patient is considering this, discuss safe drinking

REVIEWS

limits and ways to avoid alcohol-induced harm.

Why are the recommended drinking limits lower for some patients?

The limits are lower for women because they have proportionally less body water than men do and thus achieve higher blood alcohol concentrations after drinking the same amount of alcohol. Older adults also have less lean body mass and greater sensitivity to alcohol's effects. In addition, there are many clinical situations where abstinence or lower limits are indicated, due to a greater risk of harm associated with drinking. Examples include women who are or may become pregnant, patients taking medications that may interact with alcohol, young people with a family history of alcohol dependence, and patients with physical or psychiatric conditions that are caused or

WHAT IS YOUR DRINKING PATTERN	HOW COMMON IS THIS PATTERN?	HOW COMMON ARE ALCOHOL DISORDERS WITH THIS PATTERN
Based on the following limits—number of drinks: On any DAY—Never more than 4 (men) or 3 (women) – and – In a typical WEEK—No more than 14 (men) or 7 (women)	Percentage of U.S. adults aged 18 or older*	Combined prevalence of alcohol abuse and dependence**
Never exceed the daily or weekly limits (2 out of 3 people in this group abstain or drink fewer than 12 drinks a year)	 72%	less than 1 in 100
Exceed only the daily limit (More than 8 out of 10 in this group exceed the daily limit less than once a week)	 16%	1 in 5
Exceed both daily and weekly limits (8 out of 10 in this group exceed the daily limit once a week or more)	 10%	almost 1 in 2

(Note: Not included in the chart, for simplicity, are the 2 percent of U.S. adults who exceed only the weekly limits. The combined prevalence of alcohol use disorders in this group is 8%)

exacerbated by use of alcohol. The Guide also cautions about alcohol and medication interactions and drinking during pregnancy.

The full Guide can be viewed http://pubs.niaaa.nih.gov/publications/Practitioner/CliniciansGuide2005/clinicians_guide.htm

The Westminster diet and health forum

Binge drinking and the sexual health of young people in Britain were in the spotlight as senior stakeholders gathered for a Westminster conference in October. Representatives from charities, industry and local government met with senior officials, MPs and peers to discuss the challenge of effectively communicating messages relating to drugs, alcohol and sexual health to young people at a conference organised by the Westminster Diet & Health Forum.

Reviewing the results of Schools Health Education Unit (SHEU) surveys, taken across UK schools over the last 20 years, SHEU research manager Dr David Regis said "Findings from our research give some reasons for concern... There is a tendency towards drinking more

alcohol in a session, towards greater contact with illegal drugs, and it seems there are some big gaps in some young people's understanding of sexual health." However, less young people are drinking, but those who are drinking are drinking more "Schools tell us they need more time to prepare this area of education." Claimed Dr Regis, they have little time or training for the delivery of information on alcohol, drug use and sexual health.

Srabani Sen, Chief Executive of charity Alcohol Concern, called on the industry to market their products more responsibly, reducing the attraction to under age drinkers saying "The amount of alcohol drunk by young people has more than doubled over the last decade. If we are to see this trend reversed it is time for a real

commitment from industry and from Government...Young people need to know the risks of drinking too much, and be given real support in finding ways to enjoy themselves that don't involve alcohol."

Public Health Minister Caroline Flint and senior Department for Education and Skills official Anne Weinstock prepared papers for the event, as did Helena Conibear of AIM Digest. These will result in a briefing paper on the way forward on policy for decision makers in Parliament and government.

A fuller report will appear in AIM January 2006. For more details contact Helena.conibear@aim-digest.com or visit www.dietandhealthforum.co.uk

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